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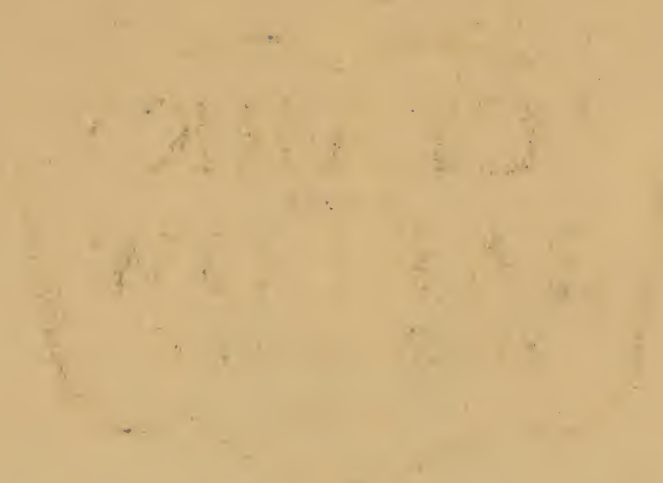
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CATALOG F



Wholesale Distributor
of
Industrial Supplies
Contractors Equipment
Builders Hardware
and Tools

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123 West Lake Street
CHICAGO, ILLINOIS

To The Trade

LARGE and diversified as our stock of merchandise is, it is impossible to give a complete listing of the various Tool, Machinery and Supply Lines. We have, however, cataloged herein the most frequently called for items.

While we have not listed what might be termed the slower sellers, we carry in stock a vast number of articles kindred to what we have shown. Our manufacturing connections enable us to supply your requirements within the range of our diversified business. All data and general information contained in this catalog has been corrected to date of publication and to the best of our knowledge is authentic but we cannot be held responsible for any error that may be made in using this book as a reference such as estimating work, etc.

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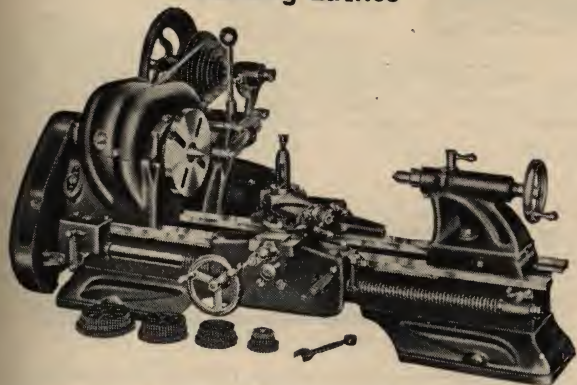
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F-Series Atlas 10-Inch Backgeared Screw Cutting Lathes



Meets all the requirements of the modern shop—accuracy for the finest work, strength and power for heavy jobs, rugged materials and large bearing surfaces for long service life; and in addition incorporates many modern features essential for simple, efficient operation. From its massive precision-ground bed to the convenient quick-change countershafts, each part of lathe has been designed on these fundamental principles.

The following are features of this lathe: Instantly reversible power cross feed; instantly reversible power longitudinal feed; backgeared power for heavy jobs; 16 speeds between 28 and 2072 rpm.; simplified change gear setups; large easy-to-read threading chart; 60-hole indexing mechanism; quick-change countershaft, horizontal or vertical; complete V-belt drive, motor to countershaft to spindle; wide thread-cutting range (4 to 96 per inch, Standard; Metric .5 to 7 mm., Standard); precision lead screw, $\frac{3}{4}$ inch diameter (8 Acme threads per inch); micrometer-graduated steel feed screw collars; 4 bed wipers on carriage; and graduated tailstock ram.

Equipment consists of reversible automatic power cross feed; reversible automatic power longitudinal feed; graduated compound rest; tool post, ring, and rocker; complete set of change gears to cut standard threads from 4 to 96 per inch and standard metric threads from .5 to 7 mm.; threading chart; threading dial; quick-change countershaft with motor mounting bracket; belts and pulleys for complete V-belt drive; motor pulley furnished is for $\frac{1}{2}$ -inch diameter motor shaft; 10-ampere motor control switch and cord, switch is for single phase current only; 60-hole indexing mechanism; 6-inch face plate; two 60° lathe centers; reducing sleeve for headstock center; combination tool-post and compound wrench, wrenches for socket-head screws; and instruction book.

With Vertical Countershaft

No.	Less Motor Each	Length Bed In.	Between Ctrs. In.	Length All In.	Depth Over All In.	Ht. Over All In.	Wt. Lb. Less Motor
V36	\$107.00	36	18	40	21	24	249
V42	114.00	42	24	46	21	24	261
V48	123.00	48	30	52	21	24	269
V54	132.00	54	36	58	21	24	274

With Horizontal Countershaft

H36	\$112.00	36	18	40	26	19	259
H42	119.00	42	24	46	26	19	271
H48	128.00	48	30	52	26	19	279
H54	137.00	54	36	58	26	19	284

With Timken Tapered Roller Bearings

With Vertical Countershaft

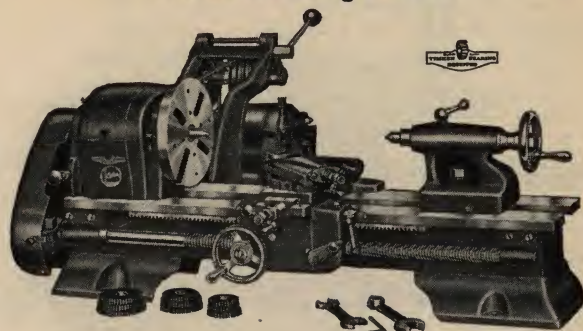
TV36	\$124.00	36	18	40	21	24	249
TV42	131.00	42	24	46	21	24	261
TV48	140.00	48	30	52	21	24	269
TV54	149.00	54	36	58	21	24	274

With Horizontal Countershaft

TH36	\$129.00	36	18	40	26	19	259
TH42	136.00	42	24	46	26	19	271
TH48	145.00	48	30	52	26	19	279
TH54	154.00	54	36	58	26	19	284

Any of these lathes may be equipped with motor. Prices upon application.

Atlas 6-Inch Back-Geared Screw-Cutting Metal-Working Lathes



This lathe is of modern compact design. Precision lathe work requires accurate alignment of the spindle, tailstock, carriage, and bed ways. In this lathe, this alignment is guaranteed to be within .001 inch.

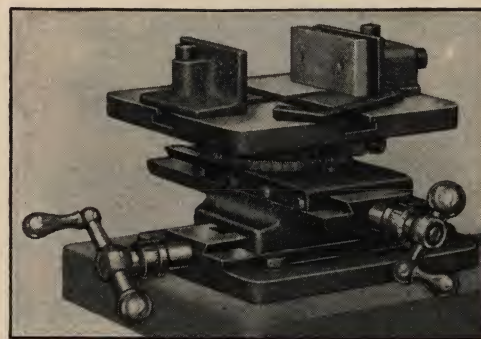
Features: Timken equipped back-geared headstock; 16 speeds, 54 to 3225 rpm.; V-belt drive; wide thread cutting range; precision ground bed ways; 60-hole indexing mechanism.

Equipment furnished: reversible automatic power longitudinal feed; graduated compound rest; tool post, ring and rocker; $\frac{3}{8}$ -inch tool bit; complete set of change gears to cut standard threads between 8 and 96 per inch; threading chart; threading dial; quick-change countershaft; complete v-belt drive. Motor pulley furnished is for $\frac{1}{2}$ -inch diameter motor shaft. Has $\frac{5}{4}$ -inch combination metal and wood-working face plate; two 60° lathe centers; No. 2 Morse taper for headstock; No. 1 Morse taper for tailstock; 3 wrenches; and instruction folder.

Also available with floor stand.

No.	612	618
Center to Center.....inches	12	18

No. W68 Atlas Universal Compound Vises

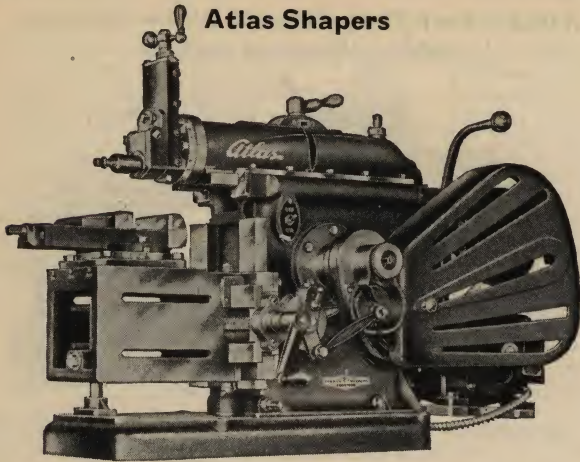


Handles all types of accurate indexing, layout, and spacing work and is built to permit adapting the Atlas drill press to light milling operations. Also used with shaper, milling machine, lathe, and grinder for any jobs which require accurate feeds in two directions.

Cast base with machine-ground bottom.

Cross feed, $6\frac{1}{2}$ inches; transverse feed, $5\frac{1}{2}$ inches; size of base, 6x7 inches; size of table, 7x7 inches; jaw width, 3 inches; jaw opening, $4\frac{5}{8}$ inches; jaw height, $1\frac{5}{8}$ inches; and height, base to table, $4\frac{1}{4}$ inches.

No.	Each	Description	Wt., Lb.
W68	\$19.95	Complete Vise, with Wrench and Bolts	23 $\frac{3}{4}$
W68-2A	10.50	Table Only, for Boring on Atlas 10-Inch Metal Lathes; Complete with Vise and Wrench.....	12
W8V	.75	V-Block Jaw for Holding Round Work in Vise Jaws.....	$\frac{5}{8}$

Atlas Shapers

Automatic cross feeds. Complete V-belt drive. 4 speeds. Crank-type ram-driving mechanism.

No. 7B, Shaper Complete with Guards, less Motor and Stand, Ship. Wt., 310 Lbs.	each	\$265.00
No. 7AB, Shaper less Guards, Motor, and Stand, Ship. Wt., 305 Lbs.	each	250.00
No. S7-442C, Shaper Stand, Floor Legs and Table Boards, Ship. Wt., 135 Lbs.	each	20.00
No. S7-139, Shaper Tool Holder, with 1/4-Inch Tool Bit, Wt., 1 1/2 Lbs.	each	4.15
No. 2530A, 1/2 Hp. A.C. Ball Bearing Motor. each		23.75

Specifications

Length Stroke.	inches	1/2 to 7
Cutting Speeds.	feet per minute	3 1/2 to 116
Horizontal Table Travel.	inches	9 3/8
Vertical Table Travel.	inches	4 3/8
Length Overall.	inches	36
Width Overall.	inches	17
Height Overall from Bench Base.	inches	26
Height Overall with Stand.	inches	60
Vise Opens.	inches	4

Atlas Bench Milling Machines

Designed for tool room and production needs.

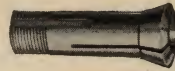
Has three types of table controls; hand operated screw feed, rapid-production lever feed and Change-O-Matic for selection of automatic table feeds between 0.162 and 9.125 inches per minute.

Timken tapered roller bearings carry spindle loads with minimum of friction. Wide range of spindle speeds, 16 speeds between 54 and 3225 rpm., provides surface speeds for all types of work and cutters.

Working surface, 4 1/2 x 18 inches. Overall dimensions, 25 1/2 x 32 1/2 x 22 inches. Swivel vise, rotary table, indexing heads, oil pot, arbor, cutters and safety guards are available.

Motor recommended, 1/3 hp., 1740 rpm.

No. MF, Change-O-Matic Feed, Less Motor.	each	\$225.00
No. MH, Lever Feed, Less Motor.	each	210.00
No. MI, Screw Feed, Less Motor.	each	205.00

No. 751 Split Holding Collets

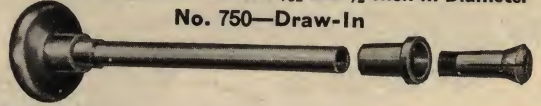
For round work. Available in 32nds between 1/32 and 1/2 inch.

Collet tool steel, heat treated and ground inside and outside for precision work. One end is threaded to fit draw-in spindle or torque tube; other end is ground to fit tapered closing sleeve. Keyway prevents collet turning while in operation. Weight, 4 ounces.

No. 751. each \$4.75

Atlas Collet Chuck Attachments

For Chucking Work between 1/32 and 1/2 Inch in Diameter

No. 750—Draw-In

Hollow draw-in spindle extends through lathe headstock spindle and is threaded at spindle nose end to hold collets in tapered sleeve. Hollow construction permits rods to be passed through lathe spindle. Hand-wheel releases and tightens collet on work. Tapered sleeve is ground inside and outside to insure accuracy. Lathe must be stopped to open and close collet.

Complete with draw-in spindle, tapered closing sleeve and one split holding collet. Weight, 3 pounds.

No. 750. each \$21.50

No. 900—Lever

Chucks and releases work with lathe running.



Work is fed through the hollow torque tube of lever type attachment.

Collet is tightened on work by moving lever to left; released by moving it to right.

Preliminary adjustment of collet is made with knurled collar at left end of torque tube; clutch tension sleeve has fifteen evenly spaced slots. Tapered collet sleeve is ground inside and outside.

Complete with hollow torque tube, hand lever control, tapered closing sleeve, spindle nose cap, mounting bracket and one split holding collet. Weight, 6 pounds.

No. 900, For Babbitt Bearing Lathes. each \$49.50

No. 900T, For Timken Bearing Lathes. each 49.50

No. 700 Atlas Tool Room Taper Attachments

For Atlas 10-inch lathes. Designed for tool rooms and production shops. Has extra weight and rigidity required for production taper work.



Dove-tail slide bar, installed parallel to bed way, is machined and has gib adjustment for accuracy.

Taper on both sides of center line is shown by two sets of graduations, one in degrees and one in inches per foot. Tool is fed by slotted draw bar attached to carriage cross slide. Clamp arm assures rigid mounting.

Maximum travel one setting, 6 1/2 inches. Range right or left, 3 inches per foot or 7°, 10 feet.

Weight, 18 pounds.

No. 700. each \$35.00

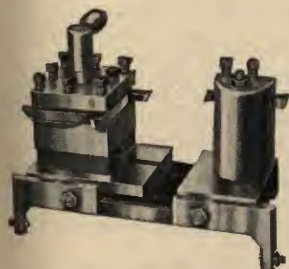
No. 600 Atlas Tailstock Turrets



Semi-automatic indexing head has six $\frac{3}{4}$ -inch bored holes for tool holders, each permitting a separate operation. Extra long feed ram has hand-feed lever, which when turned to right, unlocks turret head so next tool may be moved into position. Advancing the feed lever locks head in rigid position. Six adjustable stop screws at end of feed ram are indexed with head, and gage depth of each operation.

No. 600, Weight, 39 Pounds.....each \$60.00

No. 670 Atlas Carriage Turrets

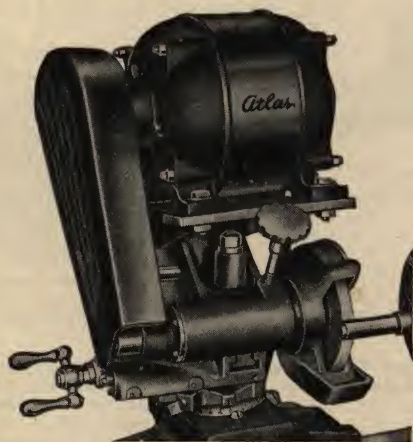


Lock handle releases turret head so that it may be rotated to any one of four positions, automatically indexed. Tool posts take $\frac{3}{8}$ inch tool bits. Back slide tool post permits fifth operation, usually cutting off. Adjustable stops at both front and back of double tool cross slide may be set to gage correct depths of cut.

Complete with double tool cross slide, 4-way turret and back slide tool post. Weight, 22 pounds.

No. 670.....each \$47.00

No. 10-450 Atlas 10-Inch Heavy Duty Lathe Grinders



For Atlas 10-inch lathes.

Furnished with two-step balanced pulleys, belt, external grinding wheel, internal grinding wheel, quill for internal work, diamond dresser and extension cord and plug.

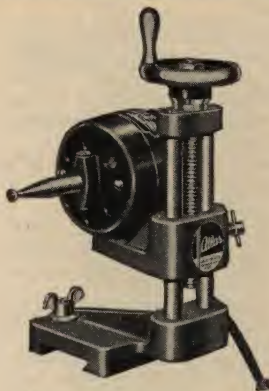
Maximum distance from center of wheel to center of work, with grinder perpendicular to work, $4\frac{1}{8}$ inches. Grinds external diameters up to $4\frac{1}{4}$ inches; internal diameters from $\frac{1}{4}$ to $9\frac{1}{4}$ inches, internal wheels grind to depth of $2\frac{3}{8}$ inches. Base swivels for angle grinding from 0° to 90° . Spindle, $\frac{5}{8}$ inch diameter, lubricated and sealed for life ball bearings. Spindle speeds 4900 and 9100 rpm. full load. Height above bed when mounted for operation, 15 inches.

Motor, $\frac{1}{4}$ hp., 3450 rpm., single phase, 110 volt, 60 cycle, a.c., single end ball bearing shaft, built-in switch.

Weight, 60 pounds.

No. 10-450.....each \$53.00

No. 510 Atlas Motor-Driven Mica Undercutters



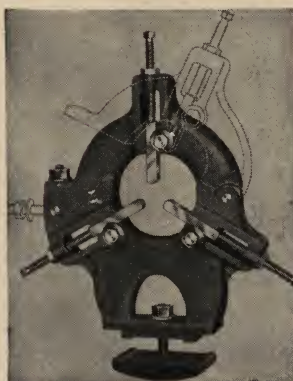
For armature servicing.

Undercutting attachment is mounted on back of carriage cross slide. Height of cutter arbor is adjusted by elevation screw with handwheel control. Position is set with thumbscrew. Saw is fed through mica by turning lathe carriage handwheel; grooves are clean, square, parallel and uniform in depth.

Complete with Dumore motor, 105-125 volt, 25-60 cycle a.c. and 105-125 volt d.c.; set of five high speed undercutting saws, .015, .020, .025, .030 and .035 inches; extension cord, switch and plug. Weight, 11 pounds.

No. 510.....each \$20.00

No. 10-325A Atlas Steady Rests



For 10-inch lathes.

Clamped to bed ways, serves as rigid work support in turning, boring and threading long pieces.

Frame and base are strong iron castings. Bronze jaws prevent scoring work. Each jaw can be adjusted and locked in position to provide proper work bearing. Top is hinged so that work may be inserted or removed without unclamping rest.

Capacity, $2\frac{7}{8}$ inches diameter.

Weight, 5 pounds.

No. 10-325A.....each \$5.25

No. 425 Atlas Follower Rests

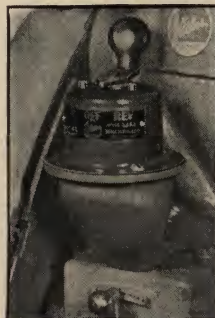


Braces long slender rods. For 10 inch lathes.

Mounted on back of carriage dovetail slide, follows the cutting tool and holds work in position.

No. 425, Weight, 3 Pounds.....each \$3.50

No. 10-420 Atlas Reversing Switches



A drum-type switch with knobbed lever control mounted on reverse gear box.

Durable contacts are hard rolled copper.

Operates on single phase, capacitor, and 3-lead repulsion-induction motor; also both shunt-wound and compound-wound d.c.

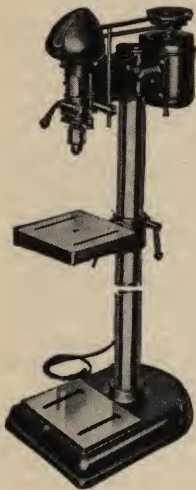
Complete with mounting bracket, cable connections, installation diagram.

Weight, $3\frac{1}{2}$ pounds.

No. 10-420.....each \$4.50

Delta 14-Inch Triple Duty Drill Presses

Floor Type



Performs all drilling in metal. Efficient on production work in drilling at high speed, using high speed drills. Will take all standard wood-boring spur bits; bores holes up to 2 inches and over using multi-spur bits.

With mortising attachment will make square mortises from ¼ to ½ inch in width, and of any length.

Routing work can be done with standard router bits with ½-inch shank. Handles shaper cutters and attachments.

Sanding can be done on this press with the use of drum sanders.

Height, 68 inches, diameter column, 2¾ inches. Spindle travel, 4 inches. Distance from spindle to table, 41¾ inches. Chuck to base, 47 inches. Size table, 10x10 inches. Drilling capacity, ½ inch in cast iron.

Drills to center of 14 inch circle.

Speeds: 590, 1275, 2450 and 5000 rpm.

Slo-speed models also available.

Prices do not include motor or switch.

No.	Each	Type of Spindle	Description	Ship. Wt. Lb.
970	Keyless	Std. Tilt Table.....	145
1570	Keyless	Std. Tilt Table & Foot Feed	175
1571	Keyless	1006 Production Table.....	145
1572	Keyless	1006 Prod. Table & Foot Feed	175
986	No. 1 Morse	Std. Tilt Table.....	140
1586	No. 1 Morse	Std. Tilt Table & Foot Feed	170
1587	No. 1 Morse	1006 Production Table.....	140
1588	No. 1 Morse	1006 Prod. Table & Foot Feed	170
989	½ In. Jacobs	Std. Tilt Table.....	145
1589	½ In. Jacobs	Std. Tilt Table & Foot Feed	175
1590	½ In. Jacobs	1006 Production Table.....	145
1591	½ In. Jacobs	1006 Prod. Table & Foot Feed	175

Delta 14-Inch Drill Presses

Bench Type



For drilling, boring, mortising, carving, shaping, sanding, and surface grinding.

Features: Free-floating spindle; double-seal bearings; sturdy tilting table; heavy steel column; Jacobs chuck; adjustable depth index; graduated quill; micrometer depth stop; table-type base.

All models include No. 985 motor pulley.

With special 11x14-inch production table with oil trough and drain hole, if desired.

Height, 36½ inches. Diameter column, 2¾ inches. Table travel, 11½ inches. Spindle travel, 4 inches. Spindle to table, 11½ inches. Chuck to base, 17 inches. Table size, 10x10

inches. Capacity, ½-inch in cast iron.

Drills to center of 14-inch circle.

*High Speed Models—590, 1275, 2450, and 5000 RPM.

No.	Each	Type of Spindle	Description	Shipping Wt. Lb.
995	Keyless	Std. Tilt Table.....	110
1000	No. 1 Morse	Std. Tilt Table.....	110
999	½ In. Jacobs	Std. Tilt Table.....	110
1011	½ In. Jacobs	Production Type Base.....	215
1013	No. 1 Morse	Production Type Base.....	215

†Slo-Speed Models—390, 745, 1280, and 2050 RPM.

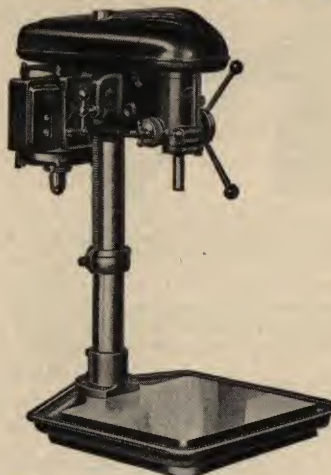
1295	....	Keyless	Std. Tilt Table.....	102
1300	....	No. 1 Morse	Std. Tilt Table.....	102
1302	....	½ In. Jacobs	Std. Tilt Table.....	102
1012	....	½ In. Jacobs	Production Type Base.....	210
1014	....	No. 1 Morse	Production Type Base.....	210

*With No. 387 V-belt. †With No. 430 V-belt.

Above listings do not include motor or switch.

Delta 17-Inch Industrial Drill Presses

Floor and Bench Type



Bench Type

For the tool room and general machine shop.

Spindle pulley runs in two sealed-for-life ball bearings and takes all belt pull. The spindle is also carried in two sealed-for-life ball bearings set close together near the bottom of the quill.

Belt is completely guarded. Guard quickly removable for speed changing. Belt tension adjustable.

The entire spindle assembly may be changed easily and removed by loosening the threaded lock ring. Either the No. 2 Morse taper or a ½-inch Jacobs chuck may be used.

Both types have built-in depth stop gage. Depth scale on spindle return-spring housing. Raising mechanism for both head and table is equipped with ball bearings.

Order geared-chuck models where straight shank drills only are to be used. Where taper shank drills, or both taper and straight shank are to be used specify the models with No. 2 Morse taper spindles.

All models include streamlined belt guard, motor pulley, and No. 520 V belt.

Floor Type with Table Raising Mechanism

Slo-Speed Models—385, 600, 935, 1450, and 2240 RPM.

No.	Each	Type of Spindle	Description	Shipping Wt. Lb.
1370	No. 2 Morse	Std. Tilt Table.....	340
1384	No. 2 Morse	Std. Tilt Table & Foot Feed.....	374
1382	No. 2 Morse	No. 1372 Production Table	385
1386	No. 2 Morse	No. 1372 Prod. Table and Foot Feed.....	419
1376	½ In. Jacobs	Std. Tilt Table.....	340
1385	½ In. Jacobs	Std. Tilt Table & Foot Feed.....	374
1383	½ In. Jacobs	No. 1372 Production Table	385
1387	½ In. Jacobs	No. 1372 Prod. Table and Foot Feed.....	419

High Speed Models—700, 1150, 1750, 2750, and 4750 RPM.

1370-H	....	No. 2 Morse	Std. Tilt Table.....	340
1384-H	....	No. 2 Morse	Std. Tilt Table & Foot Feed.....	374
1382-H	....	No. 2 Morse	No. 1372 Production Table	385
1386-H	....	No. 2 Morse	No. 1372 Prod. Table and Foot Feed.....	419
1376-H	....	½ In. Jacobs	Std. Tilt Table.....	340
1385-H	....	½ In. Jacobs	Std. Tilt Table & Foot Feed	374
1383-H	....	½ In. Jacobs	No. 1372 Production Table	385
1387-H	....	½ In. Jacobs	No. 1372 Prod. Table and Foot Feed.....	419

Bench Type with Head Raising Mechanism

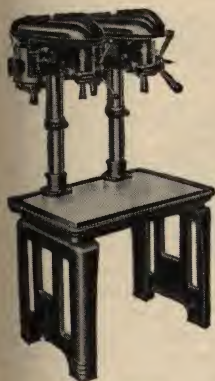
Slo-Speed Models—385, 600, 935, 1450, and 2240 RPM.

1375	....	No. 2 Morse	Prod. Style Bench Base..	400
1377	....	½ In. Jacobs	Prod. Style Bench Base..	390
High Speed Models—700, 1150, 1750, 2750, and 4750 RPM.				
1375-H	....	No. 2 Morse	Prod. Style Bench Base..	400
1377-H	....	½ In. Jacobs	Prod. Style Bench Base..	390

Above listings do not include motor or switch.

	Floor Type	Bench Type
Height Overall.....	inches 66	42½
Width.....	inches 18	18
Front to Rear.....	inches 27	27
Floor Base Table Surface.....	inches 10x13¾	.....
Tilting Table Surface.....	inches 11x12	None
Production Table Surface.....	inches 11x12	16x18
Production Table Overall.....	inches 23½x26½	.....
Column Diameter.....	inches 3½	3½
Column Height.....	inches 60	40
Capacity Spindle to Table.....	inches 34	.....
Capacity Spindle to Base.....	inches 44½	26½
Stroke of Quill.....	inches 5	5

Delta 17-Inch 2-Spindle Drill Presses Bench Type



No. 1545

Columns are of heavy-walled tubing, ground and polished to close tolerances. Large spindle pulleys are carried in self-sealed ball bearings. Exclusive inverted No. 2 Morse taper spindles, with automobile-type 16-tooth spline drive, and floating pinion sleeve; carried in self-sealed pre-loaded ball bearings.

Has built-in depth stop gage. Depth scale on spindles return-spring housing. Raising and lowering mechanism for head on production. Belt is completely guarded. Guard is quickly removable for speed tension. Belt tension adjustable. Heads are interchangeable.

Streamlined belt guards, reversing mechanisms for heads, cast iron legs, and cast iron production stand.

Capacity, $\frac{3}{4}$ inch in cast iron. Column is $3\frac{1}{2}$ inches in diameter, 60 inches high. Overall dimensions, $29\frac{1}{2} \times 41\frac{1}{2} \times 48\frac{1}{2}$ inches high. Table surface, $23\frac{1}{2} \times 36$ inches. Center to center distance between spindles, 18 inches. Maximum distance chuck to table, 26 inches. Oil trough, $1\frac{1}{2}$ -inch, drilled and tapped at rear for $\frac{3}{4}$ -inch oil-drain pipe.

Furnished with V-belts and V-pulleys, but without motors or switches. No. 9400 $\frac{3}{4}$ -hp. 3-phase motor used.

Shipping weight, 860 pounds.

Slo-Speed Models

385, 600, 935, 1450 and 2240 Rpm.

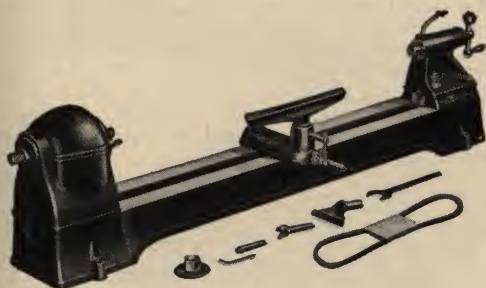
No.	1545	1546
Each.		

High-Speed Models

700, 1150, 1750, 2750 and 4750 Rpm.

No.	1547	1548
Each.		

Delta 12-Inch Wood Turning Lathes



Recommended for general use having speeds of 900 to 3400 rpm.

Swing 12 inches by 37 inches between centers. Heavy cast iron base. Indexing device on heavy cast iron head stock. Complete guarding on belt, full $1\frac{1}{4}$ inch spindle with $\frac{5}{8}$ -inch hole and No. 2 Morse taper for centers. Inboard and outboard nose threaded 1 inch diameter, 8 threads per inch.

Spindle carried on two heavy-duty sealed-for-life New Departure ball bearings.

Tailstock is heavy, has self ejecting center.

No. 6400 Delta motor is recommended for this lathe.

No. 1460, 12-Inch Ball Bearing Lathe with Accessories as Illustrated, without Motor or Motor Pulley, Shipping Weight, 160 Pounds..... each

No. 1465, 12-Inch Lathe Unit Consisting of No. 1460 Lathe, No. 1463 Stand, No. 943 Motor Pulley without Motor or Switch Rod, Shipping Weight, 256 Pounds..... each

No. 932, Four-Step Motor Pulley, $\frac{1}{2}$ -Inch Bore, Shipping Weight, 2 Pounds..... each

No. 1463, Lathe Stand Legs, Top, Shelf and Bolts, Shipping Weight, 97 Pounds..... each

Delta 6-Inch Jointers



No. 666

This tool is ideal for school shops and production work. It consists of a No. 654 Jointer mounted on a heavy cast iron base with

built-in chute.

Capacity, $\frac{1}{2} \times 6$ inches.

Jointer has heavy cast base and tables. Table width, $7\frac{1}{4}$ inches; tables are carried on gibbed dovetail ways. It has the following features: tilting fence, automatic stops, free-swing dual control, depth-of-cut and tilt scales, double-seal ball bearings, front safety knife guard, and safety-type head with 3 high speed steel knives.

Motor and belt are fully enclosed.

Motor recommended, $\frac{1}{8}$ or $\frac{1}{2}$ hp.

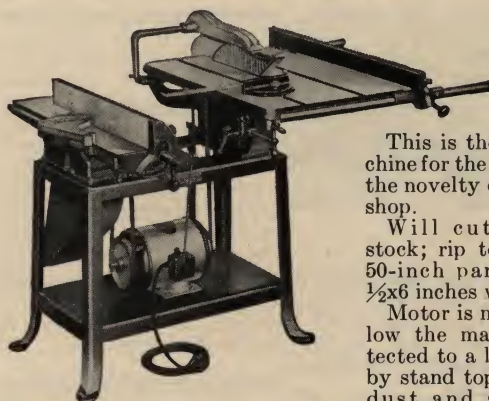
Overall dimensions of jointer only: length, $37\frac{1}{2}$ inches; width, 12 inches; height, 10 inches.

No. 654 Jointer with 3 High Speed Steel Knives, 2-Way Fence with Dual Control, $2\frac{3}{4}$ -Inch Arbor Pulley, and Front Safety Guard, without Motor, Belt, Motor Pulley or Stand, Shipping Weight, 120 Pounds..... each

No. 660 Jointer Unit with No. 654 Jointer, No. 560 V Belt, No. 5700 7-Inch V-Pulley, No. 656 Steel Stand, without Motor, Belt Guard, or Switch Rod, Shipping Weight, 154 Pounds..... each

No. 666 Jointer Unit with No. 654 Jointer, No. 560 V-Belt, No. 5700 7-Inch V-Pulley, No. 667 Cast Iron Stand with Motor Plate and Belt Guard, without Motor or Motor Switch, Shipping Weight, 248 Pounds..... each

No. 1164 Delta 10-Inch Saw and 6-Inch Jointer Units



This is the ideal machine for the contractor, the novelty or furniture shop.

Will cut $3\frac{1}{4}$ -inch stock; rip to center of 50-inch panel; joints $1\frac{1}{2} \times 6$ inches wide.

Motor is mounted below the machine; protected to a large extent by stand top from sawdust and shavings.

Direct, straight belts are used for driving, with V pulleys.

Can be trucked right to job, if necessary, and, as it takes its power from the nearest light socket, can be operated wherever electric light is available.

Nos. 9000 or 8050 motors recommended for machine for ordinary use; heavy duty and production use, Nos. 9400, 9100 or 9200 $\frac{3}{4}$ -h.p. and 1 h.p. motors. Use No. 1334 switch rod.

No. 1164 Unit, Consisting of One Each of All the Nos. Listed Below, without Motor, Switch Rod, or Circular Saw Guard..... each

No. 654, 6-Inch Jointer..... each

No. 1160, 10-Inch Circular Saw..... each

No. 1168, Steel Stand; 16 In. Wide, 30 In. Long, $26\frac{1}{4}$ In. High..... each

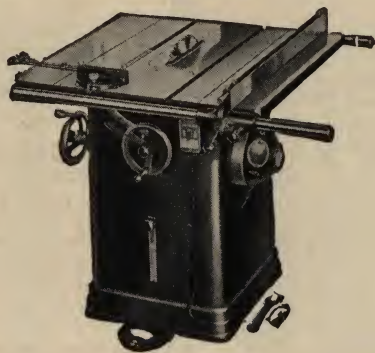
No. 510, V-Belt for Jointer..... each

No. 560, V-Belt for Saw..... each

No. 5500, 5-Inch V-Pulley for Saw, $\frac{3}{4}$ -In. Bore..... each

No. 5700, 7-Inch V-Pulley for Jointer, $\frac{3}{4}$ -In. Bore..... each

No. 1450 Delta 10-Inch Tilting Arbor Unisaws



Completely self-contained with motor and driving mechanism enclosed in a strong steel cabinet. Table is 20x27 inches and will handle work up to 50 inches wide and $3\frac{1}{8}$ inches thick. With the side wings, table is 27x36 inches. Ripping extension bars front and rear are standard.

Saw blade tilts 45° to right, operated by large handwheel to the left of the machine. Blade is raised and lowered by means of a similar handwheel at the front of the saw.

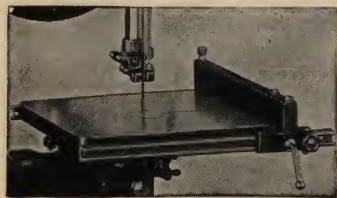
Dado heads, moulding cutters, and all other attachments for the 10-inch tilting table saw can be used on the unisaw.

No. 1450 Unisaw, with Micro-Set Rip Fence, Auto-Set Miter Gage, Extension Rip Fence Guide Bars, Motor Pulley, and Belts; Shipping Weight, 302 Pounds.....each

No. 1455 Side Extension Wings for No. 1450; Shipping Weight, 59 Pounds.....per pair

No. 291 Extra V-Belt (3 Required); Shipping Weight, 12 Ounces.....each

Delta Micro-Set Rip Gages For 14-Inch Band Saws



Guide bars are attached to the front and rear edge of the table with screws, and, due to the patented construction of the table, need not be removed even to change blades. Fence has same micro-set adjustment as No. 860 circular saw fence.

Shipping weight, No. 893, 10 pounds; No. 895, 12 pounds.

No. 893, for No. 890 14-In. Band Saw, with 18-In. Front and Rear Guide Bars, Micro-Set Fence and Screws for Attaching Guide Bars.....each

No. 895, for No. 890 14-In. Band Saw; Same as No. 893 Except with 32-In. Guide Bars.....each

Delta Woodworking and Metalworking Portable Machinery

This line of machines is constantly being improved. If you do not see in this catalogue the machine that will take care of your needs, write to us.

Catalogue on the complete line will gladly be sent to you.

Delta 14-Inch Band Saws

Metal and Wood Cutting

Heavy cast iron safety type wheels, running on double-seal ball bearings.

Hollow-cast upper arm. Removable to permit use of height attachment which increases capacity of machine to 12 $\frac{1}{4}$ inches thick.

Improved saw guides. Heavy table 14x14 inches. Swings smoothly on double trunnions. Very large table insert. Tilts 45° to right and 10° to left. Positive stops. Rip-gage attachment. Lower guide, same construction as upper. Guide comes within $\frac{3}{4}$ inch of table top, supporting blade close to work.

Height, 41 $\frac{1}{4}$ inches. Width, 16 $\frac{1}{4}$ inches. Front to back, 24 $\frac{3}{4}$ inches.



No. 890

Metal Cutting Band Saws

- No. 880, Complete with Wheel Guards, 8-Inch Arbor Pulley for Wood, Cone Pulley for Metal and One Metal Cutting Blade, without Light Attachment, Belts, Belt Guard, Stand, Motor or Motor Pulley Shipping Weight, 175 Pounds.....each
- No. 881, Complete with No. 880 Band Saw, No. 891 Stand, No. 718 Cone Pulley, Nos. 387 and 568 V-Belts, without Light Attachment, Belt Guard, Motor or Switch Rod, Ship. Wt., 210 Lbs.....each
- No. 891, Steel Stand, 24 In. High, 7 $\frac{7}{8}$ x15 $\frac{1}{2}$ In. Top.....each
- No. 718, 4-Step Motor Pulley (Special Bore).....each
- No. 387, V-Belt (Metal Cut Drive).....each
- No. 568, V-Belt (Wood Cut Drive).....each
- No. 882, Complete Lamp Attachment.....each
- No. 883, Belt Guard for No. 881 With Screws.....each
- No. 1334, Switch Rod.....each

Wood Cutting Band Saws

- No. 890, Comp. with Wheel Guards, 8" Arbor Pulley and One No. 1034 $\frac{1}{4}$ " Wood Sawing Blade, without Lamp Attachment, Belt, Belt Guard, Stand, Motor or Motor Pulley, Ship. Wt., 152 Lbs.....each
- No. 892, Complete with No. 890 Saw, No. 5275 V-Pulley and One No. 568 V Belt and No. 891 Stand, without Lamp Attachment, Belt Guard, Motor or Switch Rod, Shipping Weight, 183 Pounds.....each
- A $\frac{1}{3}$ -hp. motor is recommended for wood cutting and $\frac{1}{2}$ to $\frac{3}{4}$ -hp. motor for metal cutting.

Delta Tenoner Attachments



For use with the No. 1186 jig, for school and production use. Cuts will not only be made square and parallel, but safely. Since tenoning is the one operation on the ordinary circular saw that is dangerous to the operator, this tenoner attachment is a great advantage.

This attachment will take stock up to 2 $\frac{3}{4}$ inches thick, any width within the capacity of the saw, and tenons to 2 inches long on an 8-inch saw. With the use of No. 1171 spacing collars and an extra saw blade, $\frac{1}{4}$ or $\frac{3}{8}$ -inch tenons can be cut at one pass.

No. 1170, Complete as Shown, with Miter Gage Head, but without Base Plate; Ship. Wt., 20 Lbs.....each

No. 1172, Complete with Base Plate; without Miter. Ship. Wt. 32 Lbs.....each

No. 1171, Spacing Collar Set (one $\frac{1}{4}$ -Inch and one $\frac{3}{8}$ -Inch Collar); Ship. Wt. 10 Oz.....each

Delta DeLuxe Multi-Speed Scroll Saws

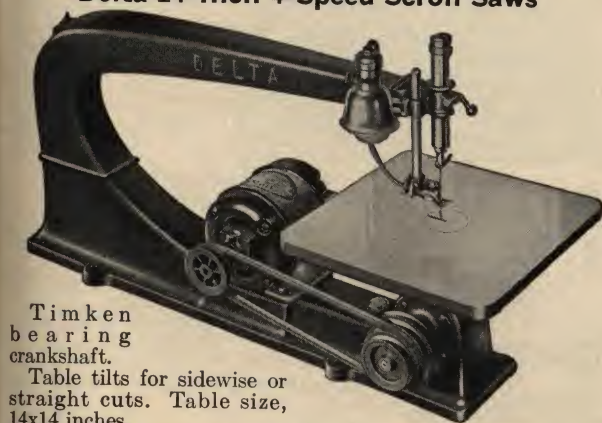


No. 1440 with No. 1444

With this saw, any speed from 650 to 1700 rpm. can be selected. The speed can be controlled within 1 or 2 rpm. if necessary. High speed for fast, fine work; low speed for heavy work; and any speed between.

- No. 1440, Multi-Speed Scroll Saw with Light Attachment, 1 Saber Blade, 3 Jewelers' Blades, Puzzle Jaw for Upper Chuck; without Arbor Pulley, Motor, Motor Pulley, Belt, Belt Guard. Shipping weight, 110 pounds.....each
- No. 1444, Standard Accessory Group Including No. 1446 Motor Pulley, No. 1447 Motor Base, No. 331 V-Belt and No. 1443 Arbor Pulley. Shipping Weight, 12 pounds.....each
- No. 1446, Variable-Speed Motor Pulley. Pulley Only, ½-Inch Bore. Shipping Weight, 2 Pounds.....each
- No. 1447, Motor Base, with Bracket, Screw and Handle. Shipping Weight, 7 Pounds.....each
- No. 331, Special V-Belt for Variable-Speed Pulleys Only. Shipping Weight, 8 Ounces.....each
- No. 1443, Special Arbor Pulley for Scroll Saw, ½-Inch Bore. Shipping Weight, 2½ Pounds.....each
- No. 1445, 24-Inch Multi-Speed Scroll Saw Unit with No. 1440 Scroll Saw, No. 1444 Accessory Group and No. 716 Steel Stand with Hook Bolts, without Motor or Belt Guard. Shipping Weight, 182 Pounds.....each
- No. 1442, Belt and Pulley Guard for No. 1440 Scroll Saw Only. Shipping Weight, 7 Pounds.....each

Delta 24-Inch 4-Speed Scroll Saws



Timken bearing crankshaft.

Table tilts for sidewise or straight cuts. Table size, 14x14 inches.

Length, 35 inches; width, 14 inches; height, 25 inches.

- No. 1200 Scroll Saw, with One Saber Blade, Three Jewelers' Blades, Four-Speed Cone Pulley on Arbor, and Puzzle Blade Jaw; without Motor, Motor Pulley, Light Attachment, or Belt.....each
- No. 1206 Scroll Saw Unit, Consists of No. 1200 Scroll Saw, No. 1207 Accessory Group, and No. 716 Steel Stand with Hook Bolts; without Motor or Belt Guard.....each
- No. 1207 Standard Accessory Group, Consists of No. 718 Cone Pulley and No. 340 V-Belt.....each
- No. 718 Cone Pulley for Motor, ½-Inch Bore; Provides Speeds of 650, 1000, 1300 and 1750 Rpm.....each
- No. 340 V-Belt, 13 Inches Center to Center.....each
- No. 716 Steel Stand, Top 7x33 Inches, 31½ Inches High.....each
- No. 1203 Belt and Pulley Guard for No. 1200 Saw.....each
- Use motors Nos. 6300, 6000, or 6600 for three-phase installation.

Delta Scroll Saw Blades

These blades are 5 inches long, and have accurately spaced teeth properly set and hardened. Ends of blades have ⅝-inch blanks for fastening into chucks.

Fret Saw Blades

With wide spaced teeth, not set and not tempered for metal. For sawing wood where extremely thin cut is required—very fast cutting.

No.	Per Dozen	Size Inches	Teeth per Inch
81010x.070	14
82010x.055	16
83010x.045	18
84008x.035	20

With wide spaced teeth approximately .010 inch thicker than the above blades, not set. Tempered for sawing plastics, bone, celluloid, etc.—very fast in wood.

No.	Per Dozen	Size Inches	Teeth per Inch
85020x.055	15
86020x.065	12
87020x.070	7
88020x.110	7

Jig Saw Blades

With filed and set teeth, oil hardened and of medium temper for sawing wood and other substances. Will also saw soft metals.

No.	Per Dozen	Size Inches	Teeth per Inch
91020x.110	15
92020x.110	10
93028x.187	10
94028x.250	

Piercing Saw Blades

Teeth are not set. Hardened and tempered for scroll sawing metals, bone, pearl, etc. Used most exclusively in fine metal arts. Will discolor wood at high speed because teeth are not set.

No.	Per Dozen	Size Inches	Teeth per Inch
95016x.054	30
96016x.054	20
97020x.070	15
98020x.085	12

Scroll Saw Blades

With set teeth hardened and tempered for sawing metals. Used extensively for sawing templates, light and heavy metal craft, electrotype metals, etc. Nos. 59, 60, and 61 are also good wood cutters.

No.	Per Dozen	Size Inches	Teeth per Inch
58020x.070	32
59020x.070	20
60020x.070	15
61020x.085	15
64020x.110	20
*65028x.025	20

*Heavy duty hack saw blade.

Saber Blades

For wood. Close to 80 per cent of all scroll saw work, except the finer work in wood and metal, can be done with saber blades. This is true because the free end is properly backed up and supported close to the point where the cutting strain takes place. Made of steel, accurately hardened and set. Length overall, 4½ inches.

No.	703	704
Per 6		
Size	.025x.187	.035x.250
Teeth per Inch	9	7

Stanley Router-Shapers**No. 11 Power Units**

A compact $\frac{3}{8}$ horsepower Universal motor operates direct from a light socket—110 volt—either a.c. or d.c. and runs at 18,000 r.p.m. without vibration. All the power is delivered directly to the cutting edge, no belts or pulleys. Heavy duty ball bearings. Seamless drawn steel housing. Convenient toggle switch. Weight, 5 pounds.

A router, with No. 12 Chuck; a shaper, with No. 45 Arbor.

No. 11, less Chuck and Arbor... each \$29.50

No. 10 Hand Routers

No. 10 Hand Router is compact and easily handled so that free hand cuts can be made to a knife line. Ideal for carving, beading, fluting, mortising, etc. Nos. 48 and 49 Templet Guides simplify templet and inlay work.

Depth of cut is regulated by raising or lowering the power unit in the router base.

Furnished with power unit, router base, chuck, wrenches and No.



208 $\frac{1}{4}$ -inch bit. Weight, 8 $\frac{1}{2}$ pounds.

No. 10, Complete (110 V).....each \$37.95

No. 60 Dovetail Fixtures

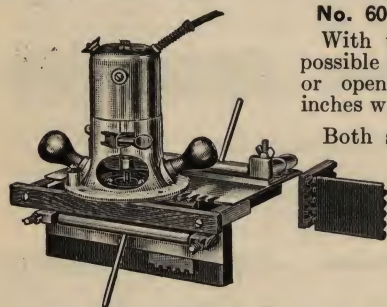
With this equipment it is possible to cut a perfect blind or open dovetail up to 8 inches wide.

Both sides are cut at the same time on open dovetails.

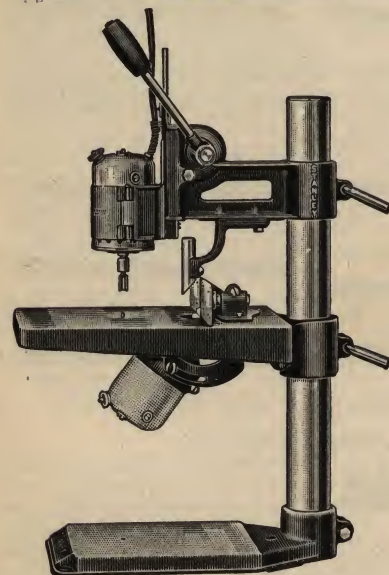
Takes stock up to $\frac{3}{4}$ inch thick.

Weight, 16 lbs.

No. 60 each \$23.50

**No. 30 Combined Bench Routers and Shapers**

Equipment for all kinds of routing and shaping operations such as inlaying, paneling, mortising, boring dowel holes, flat turning, hundreds of molding cuts, tongue, groove, chamfer, cove, rabbet and many other cuts. By using simple, quickly made templets, intricate designs can be duplicated on wood. The power unit can be transferred from the router overarm to the holder under the table and used as a shaper. Holder can be tilted 45° so that 3 or 4 cutters used singly or in combinations of

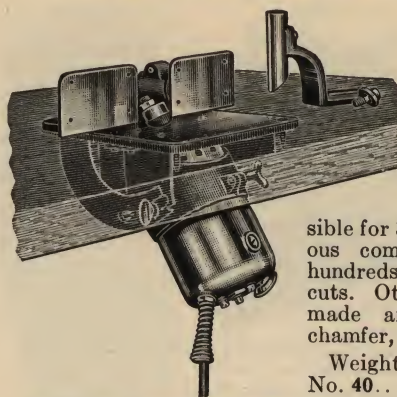


2 or 3 will make hundreds of molding cuts.

Base of grey cast iron and machined. Column, 2 $\frac{1}{4}$ x24 inches, of extra heavy steel tubing. Shaper table, 14x10 inches. Weight, 57 pounds.

No. 30, less Power Unit, Straight and Circular

Guides.....each \$45.00

No. 40 Stanley Bench Shaper Plates

By the use of this bench plate, No. 11 Power Unit, and No. 45 Spindle, it is possible to use a work bench as a shaper table. The patented tilting feature makes it possible for 3 or 4 cutters in various combinations to make hundreds of different molding cuts. Other cuts that can be made are tongue, groove, chamfer, cove, rabbet etc.

Weight, 4 $\frac{1}{2}$ pounds.

No. 40.....each \$8.25

Price, less power unit, straight and circular guides.

Stanley Router-Shaper Parts**No. 15 Router Overarms**

Fits a 2 $\frac{1}{2}$ and 2 $\frac{3}{4}$ -inch drill press column and with an adapter, fits a 2-inch column. Weight, 12 pounds.

No. 15, Fits 2 $\frac{1}{2}$ and 2 $\frac{3}{4}$ -Inch Column.....each \$20.00

No. 16, Adapter for 2-Inch Column.....each 1.00

No. 12 Router Chucks

Screws on power unit shaft and holds bits.

No. 12.....each \$1.25

No. 45 Cutter Spindles

Screws on power unit shaft and holds cutters.

No. 45.....each \$2.75



12

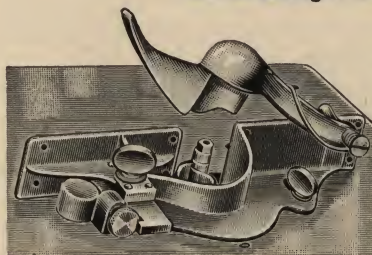


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No. 53 Straight Guides

Used with shaper plate or No. 30 bench unit. Formaking molding cuts or for jointing work. Grey iron. Bearing surfaces machined. One side fully adjustable.

No. 53, Complete with Machine Screws.....each \$5.00

**No. 44 Circular Guides**

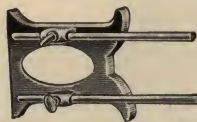
Used on overhead router arm or on shaper table in place of straight guide when making molding cuts on irregular surfaces.

No. 44.....each \$1.75

**No. 42 Straight and Circular Guides**

Used with No. 10 hand router for accurate routing parallel to edge of work.

No. 42.....each \$1.65

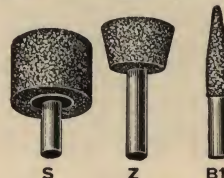
**Grinding Wheels**

Used in No. 10 hand router to sharpen bits and cutters. All have $\frac{1}{4}$ -inch shanks.

No. S, Straight.....each \$.55

No. Z, Tapered.....each .55

No. B1, Pencil.....each .55



S

Z

B1

Templet Pins and Tips

Templet pin No. 46 used in router table on No. 30 unit when routing to templets.

Templet tips used with

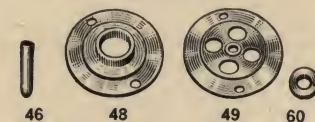
No. 10 hand router when duplicating work from templets.

No. 46, Templet Pin.....each \$.40

No. 48, Large Templet Tip.....each .50

No. 49, Small Templet Tip.....each .40

No. 50, Ring for Small Templet.....each .30



46

48

49

50

Stanley Router Bits and Shaper Cutters

High Speed Steel

Straight Bits



For routing out the background of carvings, routing out for panels, making rabbet cuts and for inlaying. All have 1/4-inch shanks.

No.	Each	Diam. Inches	Length Flute Inches
203	\$.60	3/32	3/16
204	.75	7/8	3/8
205	.75	5/32	3/8
206	.85	3/16	7/16
207	.90	7/32	7/16
208	.75	1/4	5/8
210	1.10	5/16	3/4
212	1.25	3/8	11/16

Veining Bits

For veining, line work, inlaying and carving, generally set to cut to a depth of about one-half its diameter; 1/4-inch shank.



No.	Each	Diam. Inches
303	\$.60	3/32
304	.75	1/8
306	.85	3/16
307	.90	7/32

Rounding Over Bits

Used to round the edges of mouldings and tops of tables. The pilot (tip) acts as a guide along the edge of the work. Two flutes, 1/4-inch shanks.



No.	Each	Rad. In.
506	\$2.25	3/16
508	2.50	1/4
510	2.75	5/16
512	2.75	3/4
516	3.50	1/2

Beading Bits

Used to make corner beads and to bead the edges of furniture. A pilot at the end makes it easy to follow irregular shapes. Two flutes, 1/4-inch shanks.



No.	Each	Rad. In.
602	\$2.40	1/16
604	2.40	1/8
608	3.25	1/4
612	3.60	3/8

Cove Bits

Used to make cove cuts on table tops, panel rails, and the table-leaf cut on a drop-leaf table. Two flutes, 1/4-inch shanks.



No.	Each	Rad. In.
706	\$3.00	3/16
708	3.25	1/4
712	3.50	3/8

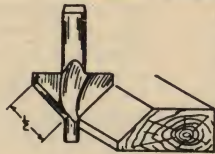
Core Box Bits

For light core box work and surface fluting. Two flutes, 1/4-inch shanks.



No.	Each	A In.
408	\$1.35	1/4
410	1.35	5/16
412	1.85	3/8
414	2.25	1/2
416	2.25	1/2

No. 916 Chamfer Bits



Used to make a chamfer cut on mouldings and tops of tables. A pilot at the end simplifies following irregular shaped work. Two flutes, 1/4-inch shanks.

No. 916.....each \$2.75

Metal Cutting Bits

Specially made for routing type metal, lead, zinc, brass, aluminum, and similar non-ferrous metals. All have 1/4-inch shanks.



No.	Each	Diam. In.
1104	\$.85	1/8
1106	1.10	3/16
1108	1.25	1/4
1110	1.40	5/16
1112	1.80	3/8

Taper Bits

Used in pattern making and other work where a taper-sided cut is desired. Shank 1/4 inch.



No.	Each	A In.	Flute In.
1202	\$1.00	1/16	9/16
1208	2.00	1/4	13/16

No. 1012 Dovetail Bits



Router Base-Templet Guide
Tip No. 49—Dovetail Bit No. 1012

Used with a No. 10 router, No. 60 dovetail fixture, and No. 49 templet tip to cut blind or open dovetails.

Has 1/4-inch shank, and cuts dovetail joints, 5/16 to 3/4-inch wood thicknesses.

No. 1012.....each \$2.95

Corner Bead Cutters

All have 5/16-inch arbor holes and are 1 1/8 inches in diameter.



No.	Each	Width In.	Rad. In.
4404	\$2.75	1/4	1/8
4406	3.00	11/32	3/16
4408	3.75	7/16	1/4

Spindle Bead Cutters

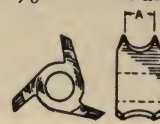


All have 5/16-inch arbor holes.

No.	Each	Width In.	Diam. In.
4508	\$2.25	1/4	11/32
4512	3.00	3/8	11/32
4514	3.75	7/16	13/8

Surface Bead Cutters

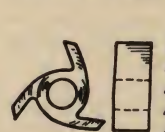
All have 5/16-inch arbor holes and are 1 1/8 inches in diameter.



No.	Each	A In.
4606	\$2.85	3/16
4610	3.25	5/16
4614	3.50	7/16

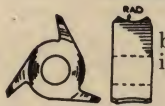
Straight Face Cutters

All have 5/16-inch arbor holes and are 1 1/8 inches in diameter.



No.	Each	Width In.
4104	\$2.00	1/8
4106	2.00	3/16
4108	2.25	1/4
4112	2.50	3/8
4116	2.75	1/2
4120	2.85	5/8
4124	3.00	3/4

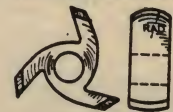
Concave Cutters



All have 5/16-inch arbor holes and are 1 1/8 inches in diameter.

No.	Each	Width In.	Rad. In.
4204	\$2.00	3/16	1/8
4206	2.25	1/4	3/16
4208	2.40	23/64	1/4
4210	2.50	7/16	5/16
4212	2.65	17/32	3/8
4214	2.90	5/8	7/16
4216	3.10	23/32	1/2
4218	3.25	13/16	9/16
4220	3.40	7/8	5/8
4222	3.75	1	11/16
4224	4.50	1 1/16	3/4

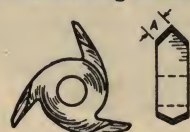
Convex Cutters



All have 5/16-inch arbor holes.

No.	Each	Width In.	Rad. In.	Diam. In.
4304	\$2.00	3/16	1/8	13/16
4306	2.25	1/4	3/16	1 1/4
4308	2.35	11/32	1/4	1 3/32
4310	2.50	7/16	5/16	1 1/16
4312	2.75	17/32	3/8	1 11/32
4314	3.00	45/64	7/16	1 7/16
4316	3.50	51/64	1/2	1 1/16
4318	6.00	7/8	9/16	1 15/32

V-Rabbeting Cutters



Both have 5/16-inch arbor holes.

No.	Each	A In.	Diam. In.
4708	\$3.70	1/4	1 1/2
4712	3.85	3/8	1 5/8

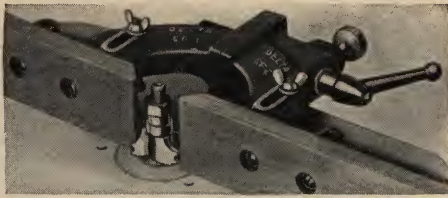
Chamfer Cutters

Made in right and left. Both have 5/16-inch arbor holes, are 1 1/8 inches in diameter and 3/16-inch wide.



No.	Each	A In.
4800L	\$2.75	3/32
4800R	2.75	3/32

No. 982 Delta Shaper Fences



This fence is thoroughly safe to use and unequalled in ease of operation, convenience of design and accuracy of adjustment.

For ordinary shaper work the two faces of the fence are set in line, while for jointing or for work where all the edge of the material is cut away, one face of the fence may be adjusted forward to support the stock as it leaves the cutter. Each section of the fence may be adjusted forward or backward independently and locked by a clamp lever which may be set at any angle to suit the operator.

This shaper fence can be used on any type of shaper, and is more massive and much more convenient than many fences supplied on heavy production shapers.

Spring hold-downs are available for use with the fence, adding much to the convenience of operation. They hold the work not only against the fence but also against the table. They can be used on either end of the fence and are provided with universal brackets and long, flexible springs that accommodate work up to 3½ inches thick.

No. 982 Delta Shaper Fence to Fit 11 and 14-Inch Drill Presses, Complete with Wood Facings, Bolts and Wingnuts, Shipping Weight 12 Lbs. each
 No. 983 Set of Shaper Hold-Downs, with Straight and Bent Posts, 2 Springs, 2 Spring Brackets and One Post Bracket, for Use with No. 982 Shaper Fence, Shipping Weight 2 Lbs. each

No. 1340 Delta Ball-Bearing Reversible Floor Type Shapers

With Fully Adjustable Fence



An ideal machine for the cabinet shop, furniture factory, specialty wood working shop and novelty manufacturer.

Large husky spindle, exceptionally large table, long spindle and spindle travel, large sealed-for-life bearings, powerful V-belt drive, interchangeable spindles, fully adjustable fence and strong, sturdy welded cabinet.

Equipment includes, table insert, fully adjustable fence, removable throat disc, tapered starting pins, 3 collars, wrenches, and spindle pulley.

No. 1340, Without Motor or Motor Pulley, Reversing Switch or Cutters.
 Height of Table from Floor. 34
 Size Table. 27x28
 Table Size With Back Wing. 27x36
 Spindle Diameter. ¾
 Capacity of Spindle (under nut). 3¼
 Spindle Travel. 3
 Spindle Speed. 8500
 Largest Cutting Circle Recommended. 3½
 Motor Drive up to. 1½ hp.
 Size of Fence, Each Side. 3¾x12½x1½
 Shipping Weight. 300 lb.

Catalog covering available accessories on application.

Delta Individual Cutters and Collars

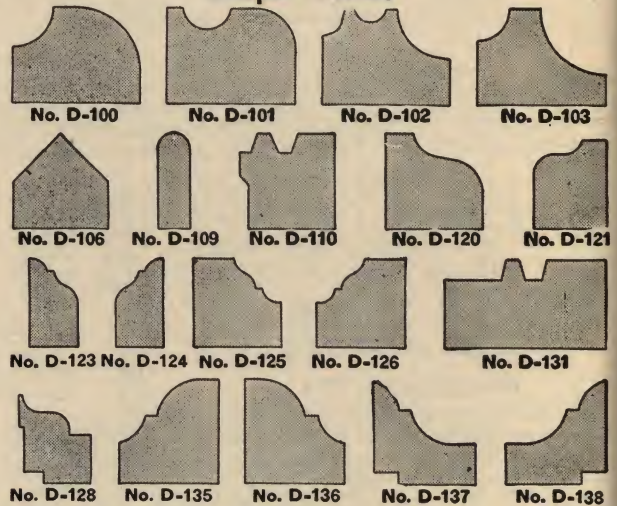


These three-lip cutters are a new development in that they offer unlimited possibilities in hundreds of moulding shapes. Cope and reverse mouldings, sash mouldings, door mouldings, doors for cabinet work or buildings, brick moulds, base moulds, and back moulding are but a few of the applications there versatile cutters may be

used. Sash cutters are designed for sash using 1½ to 1¾-inch stock.

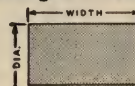
Made of special steel and hardened in oil, these cutters can be resharpened again and again merely by grinding across the faces of the cutting lips. Since they have involute relief, the sharpening does not change their shape, and the relief permits a true shaving cut while leaving a strong, well-supported edge on the cutter. Collars for use with these cutters are ground to size, not merely rough-turned, so that they run perfectly true and will not score the work.

Shaper Cutters



No.	Description	Each
D-100	As Shown. ....	.....
D-101	As Shown. ....	.....
D-102	As Shown. ....	.....
D-103	As Shown. ....	.....
D-106	45 Degree. ....	.....
D-109	Round Nose. ....	.....
D-110	Drawer Joint. ....	.....
D-120	Ogee. ....	.....
D-121	Female Sash. ....	.....
D-123	Cabinet Right Hand Male. ....	.....
D-124	Cabinet Left Hand Male. ....	.....
D-125	Cabinet Right Hand Female. ....	.....
D-126	Cabinet Left Hand Female. ....	.....
D-128	Male Sash. ....	.....
D-131	Glue Joint. ....	.....
D-135	Cove and Bead Left Hand. ....	.....
D-136	Cove and Bead Right Hand. ....	.....
D-137	Cope Right Hand. ....	.....
D-138	Cope Left Hand. ....	.....

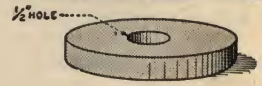
Straight Cutters



No.	Width In.	Thick. In.	Each
D-104	1	1 7/8	.....
D-105	1 1/2	1 7/8	.....
D-107	1 1/2	1 3/8	.....
D-108	1 1/4	1 15/16	.....
D-127	3/8	1 15/16	.....
D-129	3/8	2 7/8	.....
*D-130	3/4	1 7/8	.....
D-139	1/4	2 7/8	.....

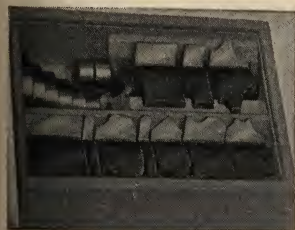
*For sash work.

Miscellaneous Collars



No.	Thick. In.	Diam. In.	Each
D-132	3/8	1 5/8	.....
D-134	1/4	1 5/8	.....
D-140	1/4	1 3/8	.....
D-141	3/8	1 3/8	.....
D-150	3/16	1 3/8	.....
D-151	1/4	1 7/8	.....

All collars have ½-inch hole.

Delta Cutter and Collar Sets**Complete Standard Sets****No. 1182 Set**

No. 1178. Cove and bead set consisting of cutters Nos. D-129, and D-135 to D-139 inclusive; Nos. D-132 and D-134 collars; and No. 1190 stub spindle for No. 1180 shaper... each

No. 1213. Cove and bead set. Same as No. 1178, but with No. 1345 stub spindle for No. 1340 shaper. each

No. 1182. Standard set consisting of cutters Nos. D-100 to D-109 inclusive, and eight suitable collars ranging from $\frac{3}{4}$ to $1\frac{1}{4}$ in. in diameter. Packed in a No. D-152 wood box. ea.

No. 1184. Sash and cabinet set consisting of cutters Nos. D-108, D-120, D-121, D-123 to D-128 inclusive, and D-130; collars Nos. D-140, D-141, D-150, and D-151; and No. 1190 stub spindle for No. 1180 shaper. Packed in a No. D-154 wood box. each

No. 1214. Sash and cabinet set. Same as No. 1184 but with No. 1345 stub spindle for No. 1340 shaper. each

No. D-152. Wood Box with Slide Lid. each

No. D-154. Wood Box with Slide Lid. each

No. 1190. Stub Spindle with Screw and Allen Wrench. each

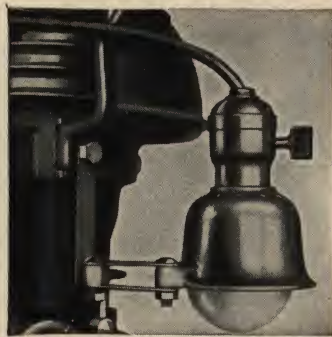
Collar Sets

Increased by sixteenths of an inch. Thickness, $\frac{3}{8}$ inch; hole, $\frac{1}{2}$ inch.

No. 1210. Set consists of seven collars from $\frac{3}{4}$ to $1\frac{1}{8}$ inches in diameter. set

No. 1211. Set consists of six collars from $1\frac{1}{16}$ to $1\frac{1}{2}$ inches in diameter. set

No. 1212. Set consists of six collars from $1\frac{1}{16}$ to $1\frac{1}{8}$ inches in diameter. set

Delta Lamp Attachments

This attachment can be used on almost every machine, drill press, band saw, scroll saw, etc. Its double linkage enables it to be swung around over the work to just the spot desired, although for most machines the single linkage will be found adequate. A neat bracket supplied with the attachment enables it to be attached to older Delta models, machines on which provision has not already been made for mounting. Latest Delta drill presses and band saws have brackets cast in place and drilled for this attachment.

The shade is formed from heavy Zamak alloy and is fitted with a high-grade nicked key-type solid and a high-grade rubber-covered cord, with a soft rubber plug.

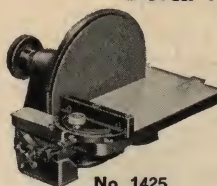
No. 882 Lamp Attachment, with Shade, Socket and Cord, 4 Flat Links, 3 Bolts, and Attachment Bracket, Shipping Weight $1\frac{1}{2}$ Pounds. each

No. S-3-S Extra Support Links, with Spacer, Screw and Nut. per pair

No. S-7-S Lamp Attachment Clamp for No. 700 Scroll Saw. each

No. S-8 Lamp Attachment Bracket for No. 970 Drill Press. each

No. SBS-50-S Lamp Attachment Bracket for Nos. 785 and 385 Band Saws. each

Delta 12-Inch Disc Sanders**No. 1425**

A ball bearing sander for finishing, squaring, mitering, fitting, and grinding. Also for finning and finishing plastics, bone, etc.

Direct-motor drive model can be used with any Delta standard $\frac{1}{2}$ hp. motor in $8\frac{1}{2}$ -inch frame. Belt-drive model makes it possible to use any available motor.

Has 12-inch disc, flat and true running for accurate work. Overall dimensions: motor drive model, $16\frac{1}{4}$ inches wide, $13\frac{1}{2}$ inches high, and $22\frac{3}{4}$ inches front to rear; belt-drive model, $16\frac{1}{4}$ inches wide, $13\frac{1}{2}$ inches high, and 17 inches front to rear. Table, $9\frac{3}{4} \times 16\frac{1}{4}$ inches; polished surface with $\frac{3}{8} \times \frac{3}{4}$ -inch slot for No. 864 miter gage. Table tilts 45° to the front and 25° to the back. Carried on rigid trunnions, with large, trunnion-lock knobs. Tilt scale on front trunnion, with adjustable pointer.

No. 1425 Belt-Drive Disc Sander, with Disc, Drive Shaft and 4-Inch Arbor Pulley; without Miter Gage or Motor. each

No. 1433 Belt-Drive Disc Sander Unit, Consists of No. 1425 Sander, No. 1432 Stand, No. 583 V-Belt and No. 5450 $\frac{3}{4}$ -Inch Pulley; without Motor, Switch Rod or Miter Gage. each

No. 1426 Direct-Motor Drive Disc Sander, with Disc, Base and Table; without Miter Gage or Motor. each

No. 1434 Direct-Motor Drive Disc Sander Unit, Consists of No. 1426 Sander, and No. 1432 Stand; without Motor or Miter Gage. each

No. 1427 12-Inch Garnet Discs, Medium Grit. per 6

No. 1428 12-Inch Aluminous-Oxide Discs for Metal, Medium Grit. per 6

No. 1429 Sawdust Blower and Adapter for No. 1425 Sander, Complete with Bag, Adapter, Switch, Cord and Plug; For 110 Volts, A.C. or D.C. Only. each

No. 1432 Steel Stand, Top $12\frac{1}{2} \times 16\frac{1}{2}$ Inches, $31\frac{1}{2}$ Inches High. each

No. 149 Distic, for Applying Discs. per stick

*Use No. 583 V-belt and No. 1334 switch rod.

Delta 6-Inch Belt Abrasive Finishing Machines

Machine operates vertically as well as horizontally. Completely ball-bearing equipped.

Overall dimensions, inches: Length, 28; width, 13; height horizontally, $8\frac{1}{2}$; height vertically, $26\frac{1}{4}$. Diagonal-lap sanding belts, 6 inches wide by $48\frac{1}{16}$ inches long. Tilting table, $7\frac{1}{2} \times 14\frac{3}{4}$ inches with $\frac{3}{8} \times \frac{3}{4}$ -inch groove for miter gage, is available for use in vertical position. Welded steel stand available to make machine completely portable.

No. 1402, Belt Abrasive Finishing Machine Unit Consisting of No. 1400 Abrasive Finishing Machine, No. 560 V-Belt, No. 5500 5-inch V-Pulley $\frac{3}{4}$ -inch Bore, and No. 1406 Steel Stand; without Fence, Backstop or Table; without Motor, Belt Guard or Switch Rod; Ship. Wt. 124 Lb. each

No. 1400 Belt Abrasive Finishing Machine Only, without Fence, Backstop or Table. With 1 No. 80 Grit Garnet Belt; without Motor Pulley, Belt or motor; Ship. Wt. 90 Lb. each

No. 560 V-Belt, $56\frac{3}{16}$ -In. Inside Circumference; Ship. Wt. 1 Lb. each

No. 5500, 5-In. Diam. Motor Pulley, $\frac{3}{4}$ -In. Bore, each

No. 1401 Tilting Table for No. 1400 Abrasive Finishing Machine; Ship. Wt. 17 Lb. each

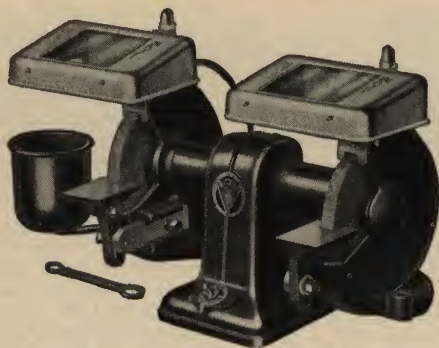
No. 1403 Backstop, Complete with Bracket; Ship. Wt. 4 Lb. each

No. 1410 Wood Fence, $3\frac{3}{4} \times 17\frac{1}{2}$ Inches, with Brackets; Ship. Wt. 7 Lb. each

No. 1406 Steel Stand; Top, $7\frac{1}{2} \times 15\frac{1}{2} \times 29\frac{1}{4}$ Inches High; Ship. Wt. 34 Lb. each

No. 1411 Belt Guard, Complete with Screws; Ship. Wt. 41 Lb. each

No. 1248 Delta Belt-Drive Grinders



Applicable to use in districts where the current is not of standard voltage or frequency.

Any motor may be used. It may be driven either from below or from the rear from any motor or shaft, and is 100% flexible.

Cast iron housing is designed so that either single or double-belt drive may be employed. Wheels are 7 inches in diameter with $\frac{5}{8}$ -inch holes, carried on a heavy alloy steel arbor $\frac{7}{8}$ inch in diameter at the center.

Precision sealed-for-life ball bearings.

A 1750 r.p.m. motor is recommended with the No. 5500 pulley. Machines should not run over 3400 r.p.m. Nos. 6300 and 6400 motors are suitable for average work. For heavy work, use Nos. 9000 or 8050 motor and double-belt drive.

No. 1248, Belt-Drive Grinder, Complete with Balanced Wheels, Twin-Lite Safety Shields, Water Pot and Swinging Bracket, Toggle Switch Wired to Lamps, Wrenches, Lamp Bulbs, Pulley and Belt, but Less Motor Pulley.....each.....

No. 387, V-Belt.....each.....

No. 5500, 5-Inch Motor Pulley, $\frac{1}{2}$ -Inch Bore.....each.....

Delta Industrial Pedestal Grinders



This is a precision tool which offers the utmost in efficiency, convenience and safety—from the double-seal ball bearings to the Twin-Lite safety shields.

Grinder has a heavy, well proportioned cast iron base $14\frac{1}{2} \times 15\frac{1}{2}$ inches. Tool tray, 12×18 inches; two water pots, each 4×4 inches.

60N and 46M Alloxite wheels, $\frac{3}{4}$ -inch face, 7-inch diameter, and $\frac{5}{8}$ -inch hole balanced to run true and vibrationless.

Tool rests are fully adjustable vertically and horizontally. Rests are 39 inches from floor.

The wheel guards are made of heavy cast iron with steel side plates. Chute discharges dust to the rear.

Twin-Lite safety shields have double thickness shatter-proof glass. Each shield has two bayonet type lamps which flood both sides

and face of wheels independent of shop lighting.

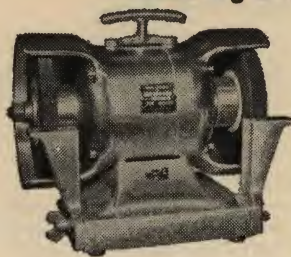
Precision double-seal New Departure ball bearings.

No.	Each	Motor	RPM.	Type of Switch	Ship. Wt. Lb.
1268	110/60 $\frac{1}{2}$ Hp. Single Phase..	*3450	Overload	170
1242	110/60 $\frac{1}{2}$ Hp. Single Phase..	*3450	Toggle	170
1246	220/60 $\frac{1}{2}$ Hp. Three Phase..	*3450	Overload	170
1275	110/50 $\frac{1}{2}$ Hp. Single Phase..	†2850	Overload	170
1274	110/50 $\frac{1}{2}$ Hp. Single Phase..	†2850	Toggle	170
1281	220/50 $\frac{1}{2}$ Hp. Three Phase..	†2850	Overload	170
1306	115 D.C. $\frac{1}{2}$ Hp.	*3450	Overload	170
1305	115 D.C. $\frac{1}{2}$ Hp.	*3450	Toggle	170
1309	230 D.C. $\frac{1}{2}$ Hp.	*3450	Overload	170

*6500 feet per minute. †5370 feet per minute.

For other motors and switches, write for specifications and prices.

Black & Decker 6-Inch Junior Ball Bearing Bench Grinders



Die cast housing and guards of new alloy. Motor, $\frac{1}{4}$ hp. Rotor and wheel spindle mounted on full-size ball bearings with protective sleeves.

Standard equipment is 3-conductor cable and plug, third wire for grounding; toggle switch in base; carrying handle; 4 rubber feet; 2 wheel guards; 2 tool rests, 1 coarse grinding wheel and 1 coarse

wire wheel brush. No-load speed, 3600 rpm. Overall spindle length, $12\frac{1}{4}$ inches; height, 10 inches; height to center-line of spindle, $5\frac{1}{2}$ inches. Shipping weight, 34 pounds.

For 60 Cycles, 1-Phase, A.C., Code No. 66.....each \$22.50

Can also be furnished 1-phase, 25, 40, or 50 cycles.

Black & Decker 6-inch Heavy Duty Ball Bearing Bench Grinders

110 Volts, 50-60 Cycles, Sgle. Ph. A.C. and All D.C. Voltages



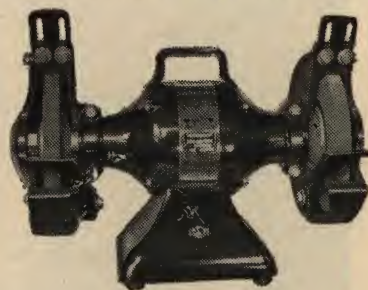
Wheel guards are adjustable; grind at any position on circumference of wheels. No load speed for 50 cycles, 3000 r.p.m.; 60 cycles, 3600 r.p.m. Size wheel, 6-inch diameter, $\frac{3}{4}$ -inch face, $\frac{1}{2}$ -inch hole. Equipped with switch in base, electric cable with plug, rubber feet, 2 adjustable tool rests and

wheel guards, coarse and fine grinding wheels. Shipping weight, 48 pounds. Pedestal \$17.50 extra.

A.C. (Code No. 67).....each \$38.00

D.C. (Code No. 68).....each 42.00

Black & Decker 8-Inch Ball Bearing Bench Grinders



Especially adapted to polishing, buffing, and wire brushing operations. Full $\frac{1}{2}$ hp. motor, of the constant speed type, provides abundant power.

Wheel guards are fully enclosed and equipped with tool rests and spark shields. Guards are drilled and tapped for eye shields, at small extra cost. Full-size ball bearings.

Standard equipment: 3-conductor cable and plug, third wire for grounding; except on 2 and 3-phase units lead wires for permanent connection; centrifugal starting switch on 1-phase unit; toggle switch in base, except on 220-440 and 550-volt, 2 and 3-phase units—no line switch supplied; carrying handle; rubber feet; two enclosed wheel guards with adjustable tool rests and spark shield; two 8-inch grinding wheels, 1 medium, 1 fine.

Furnished for 60 cycles, a.c. No-load speed, 3600 rpm.

Overall spindle length, $17\frac{3}{4}$ inches; total height, 12 inches; height to center-line spindle, $7\frac{1}{4}$ inches. Wheel size, $8 \times \frac{1}{2} \times \frac{3}{8}$ inches. Shipping weight, 82 pounds.

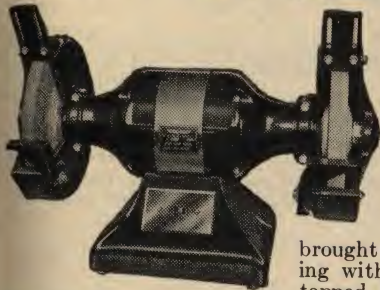
1-Phase; 110, 220 or 250 V.; Code No. 74.....each \$68.00

2-Phase; 110, 220, 250, 440, 550 V.; Code No. 54.....each 68.00

3-Phase; 110, 220, 250, 440, 550 V.; Code No. 76.....each 68.00

Also furnished 40 or 50 cycles, 1, 2, or 3-phase or 25 cycles, 1 or 3 phase at same price. Three-phase, 110/220 and 220/440 volt units are reconnectable for either voltage.

Black & Decker 10-Inch Ball Bearing Bench Grinders



Full 1 hp. constant motor. Strong, completely enclosed wheel guards, with outlets for connection to exhaust system. Tool rests and spark shields, mounted on guards. Wire leads are

brought out for permanent wiring with housing drilled and tapped for conduit and connected for armored cable. Grounding is accomplished through conduit or armored cable cover.

Standard equipment: lead wires for permanent connections, toggle switch in base; starting switch on 1-phase unit; 2 enclosed guards with exhaust outlets, tool rests and spark shields; two, 10-inch grinding wheels, 1 medium, 1 coarse.

Furnished for 60 cycles, a.c. No-load speed, 1800 rpm. Overall spindle length, 22 3/4 inches; total height, 15 1/4 inches; height to center-line spindle, 9 1/2 inches. Wheel size, 10x1x3/4 inches. Shipping weight, 153 pounds.

1-Phase; 110, 220 or 250 V.; Code No. 83. each \$98.00

2-Phase; 110, 220, 250, 440, 550 V.; Code No. 84. each 98.00

3-Phase; 110, 220, 250, 440, 550 V.; Code No. 85. each 98.00

Can be furnished 40 or 50 cycles, 1, 2, or 3-phase; 25 cycles, 1 or 3-phase; or 110 or 220 v., d.c. at same price.

Three-phase, 110/220 and 220/440 volt units are reconnectable for either voltage. All d.c. units, 1 and 2-phase units and 250 and 550-volt 3-phase are for one voltage only.

10-Inch Combination Bench Grinders

Equipped with one 10-inch grinding wheel, standard guard, tool rest and spark shield, as above; one 10-inch wire wheel brush, extra-wide enclosed guard, without tool rest or spark shield. Other specifications as above.

For all available voltages and cycles.
Each. \$103.00

Lombard Bench Power Grindstones



For the home workshop and light manufacturing.

Nova Scotia stone, size 14x2 inches.

Frame sides of hardwood; galvanized iron bottom.

Trough heavily painted to resist corrosion. Steel shafts, accurately machined. Ball bearing.

Equipment includes a hand-made copper water pot, with brass petcock. A special extension

jig or holder is furnished for grinding butt chisels and tools with very short blades. Trough is provided with brass nipple, and a short piece of rubber tubing is supplied to insure that the trough is always drained.

A special tool holder or jig is attached for grinding all bevel edged tools. Perfect edges with concave bevels can be produced. There is no danger of drawing the temper. Built with a brass slide bar to prevent corrosion and rust.

An abrasive stick is provided for the purpose of truing up stone from time to time. On heavy grinding the face of the stone should be roughened occasionally by applying the abrasive stick lightly.

Designed to operate directly from standard 1/4 h.p. motor, speed 1750 r.p.m., or a countershaft of similar speed. Under these conditions, a 2 1/2-inch pulley belted to the 6-inch pulley on the machine will operate stone at approximately 300 r.p.m. Stone should rotate away from the operator.

Space required, 23x8 inches. Shipping weight, 50 pounds.
Each.

DeLuxe Handee Grinders

Tested by Underwriters' Laboratories
Approved by Ontario Hydro Commission



For grinding, drilling, polishing, cutting, carving, sanding, sawing, and engraving on all kinds of material.

Aluminum alloy housing. Shock-proof bakelite construction, with patented protective sleeve covering all moving parts. No obstruction. Convenient shape, fits the hand. Rotary switch.

Seven-segment commutator motor, universal type. Ball bearing construction, precision ground, triple grease-sealed.

Quick-acting, precision type interchangeable spring collet chuck. Carbon composition brushes, easily replaceable.

Speed, 25,000 rpm. Length overall, including chuck, 6 inches. Diameter, 1 1/8 inches. Weight, 12 ounces.

No. 3008

Complete with seven accessories: 1/8-inch collet, five mounted wheels, Nos. 5W211, 5B137, 5B73, 5B53, and 5W160; No. 29 soft rubber polishing wheel mounted on No. 39 mandrel; No. 204 wheel dressing stone; special high speed lubricating oil and applicator.

No. 3008, for 110-120 Volts, A-c. or D-c., 25 to 60

Cycles. each \$18.50

No. 2008, Same as No. 3008, for 220 Volts. each 20.35

No. 3009

Complete with seven craftsman's accessories: 1/8-inch collet; three mounted wheels, Nos. 5W211, 5B137, and 5B53; No. 29 soft rubber polishing wheel mounted on No. 39 mandrel; No. 44 drum sander and 3 bands; No. 204 wheel dressing stone; No. 5905 steel cutter; special high speed lubricating oil and applicator.

No. 3009, for 110-120 Volts, A-c. or D-c., 25 to 60

Cycles. each \$18.50

No. 2009, Same as No. 3009, for 220 Volts. each 20.35

Dremel Electric Moto-Tools



A practical, all-purpose tool for drilling, routing, grinding, polishing, writing on glass, engraving, etc. This tool is handled like a pencil.

Has black bakelite housing with chromium-plated ends. Hardened and ground shaft runs in oilless self-aligning bearings. With handy built-in switch and universal type chuck with interchangeable double-cone type collets.

Chuck lock pin is convenient for holding chuck from turning when interchanging tools. Large commutator brushes are easily replaceable. Finger grip is an integral part of the body and close to working tools.

Machine can be held close to chuck. Has hanger for hanging machine up, to keep it out of dust and litter, and protect it from injury.

Machine does not overheat.

Universal motor operates on 110 volts, a.c. or d.c. Can also be furnished to operate on higher voltages if so specified.

Furnished with 6 feet of rubber-covered cord and plug.

No.	1	2
With Universal Chuck, 1/8-Inch Collet and One No. B52 Wheel Point.	\$9.85	16.50
Diameter. inches	1 1/8	1 1/16
Length. inches	5 1/4	6 3/4
Current Consumption. watts	68	86
Speed. rpm.	25,000	27,000
Weight. ounces	6	13

No. W-30 Atlas Drill Grinding Attachments



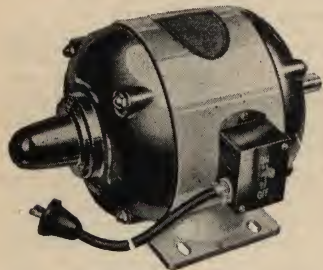
This attachment is easily adaptable to any grinder and any wheel thickness; and in two minutes, will sharpen any drill between $\frac{3}{32}$ and $\frac{1}{2}$ -inch in diameter. Simple in operation. Its special design provides scientific lip clearance.

Resharpens drills accurately with none of the uncertainty of hand work. Provides a drill point with lips of equal length, clearance and angle; assuring fast, clean, accurate drilling.

Adjustable shank stop, micrometer feed and special lip stop. Swivel base allows wide range; 40 to 80° (80 to 160° included angle). Chuck and V-block assure accurate centering.

Weight, 7 pounds.

No. W-30.....each \$21.75
No. W30-35A, Diamond Point for Dressing Face of Wheel.....each 5.50



Delta Ball-Bearing Repulsion-Induction Motors

110-220 Volts, 60 Cycles, A.C.

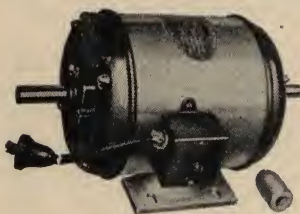
Equipped with rubber covered cord, soft rubber plug, double-pole switch. Normally supplied for 110 volts.

No.	6400	9000	9100	9200
Each.....	1 1/8	1 1/2	3/4	1
Hp.....	1725	1725	1725	1725
RPM.....	6	8 1/2	8 1/2	8 1/2
Frame.....inches	1 1/2	3/4	3/4	3/4
Diam. Shaft.....inches	34	68	80	85
Shipping Weight.....pounds				

No. 8050 Delta Sleeve Bearing Repulsion-Induction Motors

Reversible

1/2-H.P., 110-220-Volt, 60-Cycle A.C.



Operates on 110 or 220-volt current by changing connections. Reversal of rotation is effected by moving brush carrier ring to correct index mark.

Should not be run in vertical position.

Equipped with switch and plain bronze sleeve bearings.

Furnished with 8-foot

heavy rubber-covered cord and plug.

Double shafts, $\frac{3}{4}$ inch in diameter by $2\frac{1}{4}$ inches long, with $\frac{1}{16}$ -inch square keys. 1725 r.p.m.

Shipping weight, 65 pounds.

No. 8050.....each

Delta Heavy Duty Ball-Bearing Motors

3-Phase, 60 Cycles, A.C.

For industrial and school installations. For heavy duty continuous production applications especially where large gangs of machines are installed; should not be operated from lighting circuits.



No. 9400

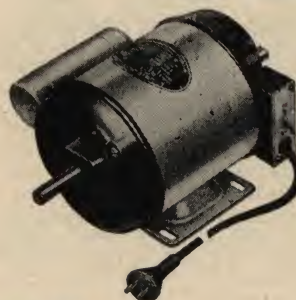
Not supplied with switch, cord or plug. Must be connected in conduit by electrician. The $\frac{1}{2}$ -hp. motor in 6-inch frame not for 17-inch drill press.

No.	6500	6600	9400	9502
Each.....				
Hp.....	1 1/8	1 1/2	3/4	1
RPM.....	1725	1725	1725	1725
Volts.....	220	220	220	220-440
Frame.....inches	6	6	8 1/2	8 1/2
Shaft.....inches	1 1/2	1 1/2	3/4	3/4
Shipping Weight.....pounds	31	33	80	85

No. 6900 Delta Ball Bearing Capacitor Shaper Motors

Reversible

1/2-H.P., 110-Volt, 60-Cycle A.C.



For high speed work; especially equipped for use with No. 1180 shaper.

Rated at $\frac{1}{2}$ h.p., but will deliver much more power.

Equipped with reversing switch, special 4-wire cord from motor to switch, 8-foot 2-wire cord and plug to connect to lighting socket.

Double shafts, $\frac{5}{8}$ inch in diameter. 3450 r.p.m.

Shipping weight, 42 lb.

No. 6900.....each

No. 8100 Delta Ball Bearing Repulsion-Induction Shaper Motors

Reversible

1-H.P., 110-220-Volt, 60-Cycle A.C.



Specially designed for use with No. 1180 shaper and No. 1197 belt guard and motor bracket.

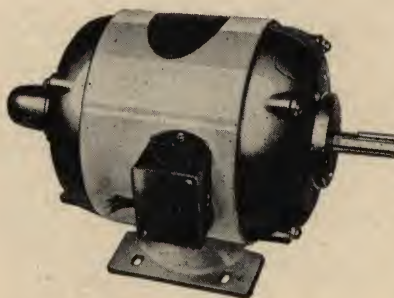
Equipped with switch connected to motor by flexible metallic cable, 9-foot cord and rubber plug.

Single shaft, $\frac{3}{4}$ inch in diameter 3450 r.p.m.

No. 8100—Shipping weight, 85 pounds.....each

No. 9532 Delta Ball Bearing Shaper Motors

1-H.P., 3-Phase, 220 or 440-Volt, 60-Cycle A.C.



Not furnished with switch, cord or plug.

Should be connected by an electrician.

Shaft, $\frac{3}{4}$ inch in diameter. 3450 r.p.m.

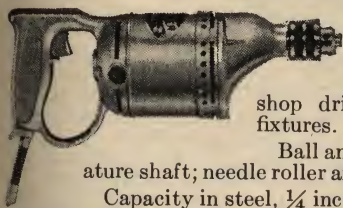
Shipping weight, 85 pounds.

No. 9532

.....each

No. 41 Skilsaw Defender 1/4-Inch Portable Electric Drills

For 110, 220 or 250 Volts



For field installation use, for maintenance men and for occasional machine shop drilling in jigs, dies and fixtures.

Ball and Oilite bearings on armature shaft; needle roller and ball thrust on spindle.

Capacity in steel, 1/4 inch; in hard wood, 1/2 inch.

No load speed, 2000 rpm.; full load speed, 1170 rpm. Length overall, 12 inches.

Universal motor for d.c. or a.c. up to 60 cycles. Equipped with 3-jaw Jacobs chuck with key; 10 feet of 3-conductor cord and plug.

No. 41, Net Weight, 4 1/4 Pounds.....each \$19.95

No. 40 Skilsaw 1/4-Inch Special Duty Portable Electric Drills

For 32, 110, 220 or 250 Volts



For drilling up to 1/4-inch holes in sheet metals and other light manufacturing materials. Practical for light production work.

Ball bearings on armature; double row ball bearing on spindle.

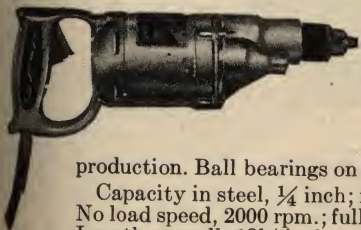
Capacity in steel, 1/4 inch; in hard wood, 5/8 inch. No-load speed, 2000 rpm.; full load speed, 1300 rpm. Length overall, 12 1/4 inches.

Universal motor for d.c. or a.c. up to 60 cycles. Equipped with 3-jaw Jacobs chuck with key; 10 feet of 3-conductor cord.

No. 40, Net Weight, 5 1/2 Pounds.....each \$33.00

No. 43 Skilsaw 1/4-Inch Portable Heavy Duty Electric Drills

For 32, 110, 220 or 250 Volts



For continuous duty service on production assembly lines. Recommended for auto body, radio, refrigerator, stove and similar production. Ball bearings on armature and spindle.

Capacity in steel, 1/4 inch; in hard wood, 3/4 inch. No load speed, 2000 rpm.; full load speed, 1440 rpm. Length overall, 13 1/2 inches.

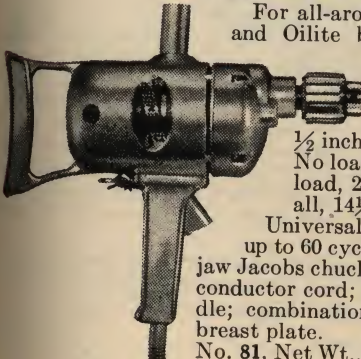
Universal motor for d.c. or a.c. up to 60 cycles.

Equipped with 3-jaw Jacobs chuck with key (keyless chuck optional); 15 feet of 3-conductor cord.

No. 43, Net Weight, 6 3/4 Pounds.....each \$45.00

No. 81 Skilsaw Defender 1/2-Inch Portable Electric Drills

For 110, 220 or 250 Volts



For all-around shop work. Ball and Oilite bearing on armature shaft and spindle; Oilite on intermediate gear.

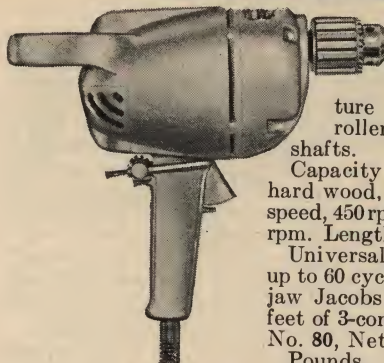
Capacity in steel, 1/2 inch; in hardwood, 1 inch. No load speed, 400 rpm.; full load, 260 rpm. Length overall, 14 1/4 inches.

Universal motor for d.c. or a.c. up to 60 cycles. Equipped with 3-jaw Jacobs chuck and key; 10 feet of 3-conductor cord; detachable pipe handle; combination spade handle and breast plate.

No. 81, Net Wt., 9 1/4 Lb. each \$35.00

No. 80 Skilsaw Special 1/2-Inch Portable Electric Drills

For 32, 110, 220, 250 and Odd Voltages



For maintenance and light production drilling. Ball bearings on armature and spindle; needle roller on intermediate gear shafts.

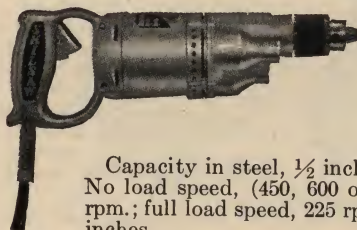
Capacity in steel, 1/2 inch; in hard wood, 1 1/4 inches. No load speed, 450 rpm.; full load speed, 300 rpm. Length overall, 11 1/2 inches.

Universal motor for d.c. or a.c. up to 60 cycles. Equipped with 3-jaw Jacobs chuck with key; 15 feet of 3-conductor cord.

No. 80, Net Weight, 8 Pounds.....each \$44.00

No. 84 Skilsaw Slow-Speed 1/2-Inch Portable Electric Drills

For 32, 110, 220 or 250 Volts



One-hand grip makes drill ideal for close quarter work and for use with hole saws. Ball bearings on armature and spindle.

Capacity in steel, 1/2 inch; in hard wood, 3/4 inch. No load speed, (450, 600 or 750 rpm. optional) 350 rpm.; full load speed, 225 rpm. Length overall, 14 1/2 inches.

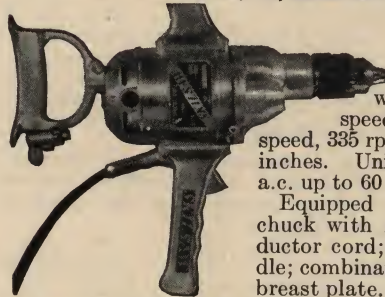
Universal motor for d.c. or a.c. up to 60 cycles.

Equipped with 3-jaw Jacobs chuck with key; 10 feet of conductor cord with unbreakable connector.

No. 84, Net Weight, 8 Pounds.....each \$50.00

No. 82 Skilsaw Standard Duty 1/2-Inch Portable Electric Drills

For 32, 110, 220 or 250 Volts



Drives hole saws. Ball bearings.

Capacity in steel 1/2 inch; in hard wood, 1 1/4 inches. No load speed, 450 rpm.; full load speed, 335 rpm. Length overall, 16 inches.

Universal motor d.c. or a.c. up to 60 cycles.

Equipped with 3-jaw Jacobs chuck with key; 15 feet of 3-conductor cord; detachable side handle; combination spade handle and breast plate.

No. 82, Net Wt., 12 1/4 Lb.....each \$58.00

Reversing switch, \$12.00 extra.

No load speed, 550, 1000 rpm., \$5.00 extra.

Skilsaw Portable Electric Drills

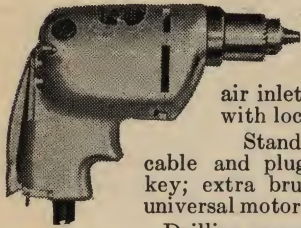
22 Powerful Models

Skilsaw Drills provide a size and type for every drilling job. Die cast frames, extra powerful motors, precision gearing and bearing construction insure dependability and finer performance.

No.	Each	CAPACITY			No.	Each	CAPACITY		
		In. Steel	In. Hard Wood	Net Wt. Lb.			In. Steel	In. Hard Wood	Net Wt. Lb.
36	\$32.00	3/16	3/8	3 3/4	83	\$68.00	1 1/2	1 1/4	13 1/2
46	34.00	1/4	3/8	4 1/8	101	60.00	5/8	1 1/4	16 1/4
42	36.00	1/4	5/8	6	103	83.00	5/8	1 1/2	25
44	36.00	1/4	3/4	6 1/2	121	68.00	3/4	1 1/2	18 3/4
50	38.00	5/16	3/4	6 1/2	123	94.00	3/4	1 3/4	26
53	50.00	5/16	3/4	7	141	73.00	7/8	1 1/2	17
60	40.00	3/8	3/4	7	143	98.00	7/8	2	24 1/2
63	57.00	3/8	1	11 1/2	...	...	...	...	...

Black & Decker Hornet $\frac{3}{16}$ -Inch Portable Ball-Bearing Electric Drills

For 110, 220 and 250 Volts



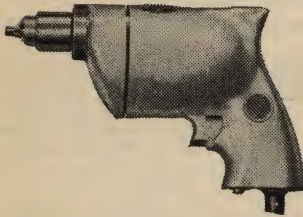
For aircraft and lighter industrial work. Splined gear mounting and spindle bearing design, screened air inlets, ample fan, grip-type switch with locking latch and spindle offset.

Standard equipment: 3-conductor cable and plug; $\frac{3}{16}$ -inch Jacobs chuck and key; extra brushes in handle compartment; universal motor operates on a.c. or d.c.

Drilling capacity in steel, $\frac{3}{16}$ inches; in hardwood, $\frac{3}{8}$ inch. Standard no-load speed, 3700 rpm.; full-load, 2000 rpm. Length over all, 6 inches; spindle offset, $\frac{1}{16}$ inches. Net weight, 34 ounces; ship. weight, $3\frac{1}{2}$ pounds.

Complete for All Voltages (Code No. 354).....each **\$32.50**

Black & Decker Holguns



A heavy-duty production tool.

Features: Deep-groove ball bearing on chuck spindle, splined gear mounting on heat-treated high grade alloy steel spindle, intermediate gear, full size armature pinion, double grease sealed ball bearing on armature shaft, ample

air outlet slots prevent clogging of ventilating system, full size steel fan mounted on armature shaft, instant release trigger switch control.

Standard equipment: 2-pole automatic-release trigger switch and locking pin, mounted as a unit with cord protector, 3-wire cable and plug (third wire for grounding); 3-jaw Jacobs geared chuck with chuck key; Universal motor, which operates on a-c. or d-c.

Standard voltage, 110. Also available for 220 or 250 volts.

$\frac{1}{4}$ -Inch Holguns

*Standard Spindle Speed, No Load.....rpm.	1700
Complete (Code No. 345).....each	\$32.50
Overall Length in Direction of Spindle.....inches	$6\frac{3}{4}$
Spindle Offset.....inches	$\frac{3}{4}$
Shipping Weight.....pounds	$4\frac{1}{4}$

*Optional speeds at no extra cost: 2500, 3500 or 5000 rpm.

$\frac{1}{4}$ -Inch Low Speed Holguns

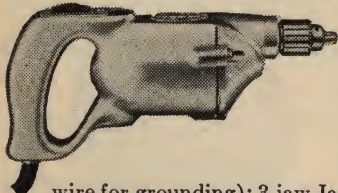
Reduced spindle speed and increased torque. For production work in stainless steel, monel metal and other modern hard alloys. All structural characteristics are identical with the standard $\frac{1}{4}$ -inch Holgun.

†Standard Spindle Speed, No Load.....rpm.	500
Complete (Code No. 346).....each	\$38.00
Overall Length in Direction of Spindle.....inches	$7\frac{1}{8}$
Spindle Offset.....inches	$\frac{3}{4}$
Shipping Weight.....pounds	$4\frac{1}{4}$

†Optional speeds at no extra cost: 750 or 1000 rpm.

Black & Decker $\frac{1}{4}$ -Inch Junior Electric Drills

For 110 Volts



Drills up to $\frac{1}{4}$ inch in steel; up to $\frac{1}{2}$ -inch in hardwood.

Compo oilless bearings assure smooth, quiet operation.

Standard equipment: 3-conductor cable and plug (third

wire for grounding); 3-jaw Jacobs chuck and key; thumb control switch; Universal motor, operates on a.c. or d.c.

Speed: No-load, 1800 rpm.; full-load, 1050 rpm.

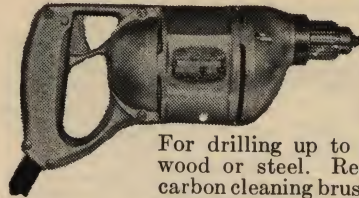
Also available for 32, 220 or 250 volts.

Overall length, $10\frac{3}{4}$ inches.

Net weight, $3\frac{3}{8}$ pounds. Shipping weight, 5 pounds.

Complete (Code No. 30).....each **\$19.95**

Black & Decker $\frac{1}{4}$ -Inch Heavy Duty Portable Electric Drills



Capacity in steel, $\frac{1}{4}$ " in hardwood, $\frac{1}{2}$ ". For all types of maintenance work where heavy duty performance is required.

For drilling up to maximum capacities in wood or steel. Recommended for driving carbon cleaning brushes, valve seating hones, wire wheel brushes, and when mounted with outfit No. 23046, is used for light grinding, buffing, and wire wheel brushing. No load speed, 2000 rpm.

For 32, 110, 220, or 250 volts, a.c. or d.c.

Net weight, $6\frac{3}{4}$ pounds. Shipping weight, $9\frac{3}{4}$ pounds.

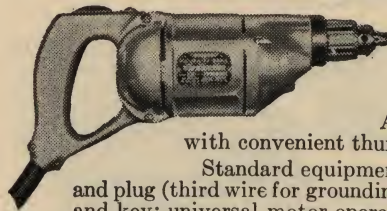
Furnished with cable and plug at no extra cost.

All Volt. (with 3-Jaw Geared Chuck and Key) (Code No. 32).ea. **\$45.00**

All Volt. (with Portomatic Chuck) (Code No. 386).ea. **48.00**

Black & Decker Utility $\frac{5}{16}$ -Inch Portable Ball-Bearing Electric Drills

For 32, 110, 220 or 250 Volts



For garages, machine shops, maintenance departments and repair kit.

A slider type of switch with convenient thumb control.

Standard equipment: 3-conductor cable and plug (third wire for grounding); 3-jaw Jacobs chuck and key; universal motor operates on a.c. or d.c.

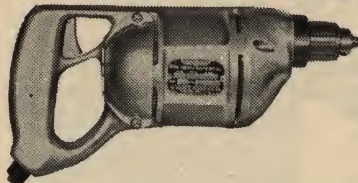
Drilling capacity, $\frac{5}{16}$ inch in steel; $\frac{5}{8}$ inch in hardwood. No-load speed, 1100 rpm.; full-load, 600 rpm. Length over all, 13 inches.

Net weight, $6\frac{1}{4}$ pounds. Shipping weight, $7\frac{1}{2}$ pounds.

Complete for All Voltages (Code No. 351).....each **\$36.00**

Black & Decker $\frac{5}{16}$ -Inch Heavy Duty Ball-Bearing Portable Electric Drills

Universal Motor for A.C. or D.C., 32, 110, 220 or 250 Volts



Capacity in steel, $\frac{5}{16}$ inch; hardwood, $\frac{5}{8}$ inch. For industrial production service on cabinet and body assembly, and especially suited to lead-hole drilling on screw-driving operations.

With 3-conductor cable, plug (third wire for grounding) and automatic release switch. No load speed, 1400 rpm.; full load, 920 rpm. Standard voltage, 110. Length overall, $12\frac{3}{8}$ inches.

Net weight, 7 pounds; shipping weight, $9\frac{3}{4}$ pounds.

Complete, with Portomatic Chuck and Patented Gear Locking Pin, All Voltages (Code No. 387).ea. **\$51.00**

Complete, with Geared Chuck and Key, All Voltages (Code No. 360).....each **48.00**

Black & Decker $\frac{3}{8}$ -Inch Utility Electric Drills



Capacity in steel, up to $\frac{3}{8}$ inch; in hardwood, up to $\frac{5}{8}$ inch.

Recommended for production service in light metal.

Ball bearings on armature shaft and chuck spindle. Adapted to sheet metal work, body and cabinet work, on railcars and in shops.

Speed, no load, 700 rpm.; full load, 360 rpm. Length over all, $13\frac{1}{2}$ inches. Standard voltage, 110; also available for 32, 220, or 250 volts.

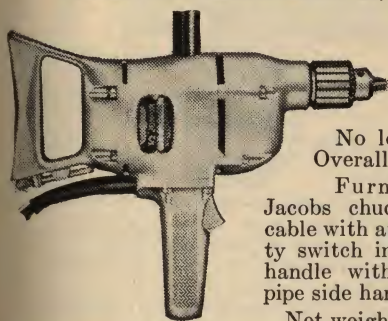
Furnished complete with 3-conductor cable and plug, 3-jaw Jacobs chuck and key, and universal motor for a.c. or d.c.

Net weight, $6\frac{3}{4}$ pounds. Shipping weight, 9 pounds.

Code No. 36, All Voltages.each **\$40.00**

Black & Decker 1/2-Inch Junior Electric Drills

Universal Motor for A.C. or D.C., 32, 110, 220 or 250 V.



For drilling in steel, iron and wood.

Capacity in steel up to 1/2 inch.

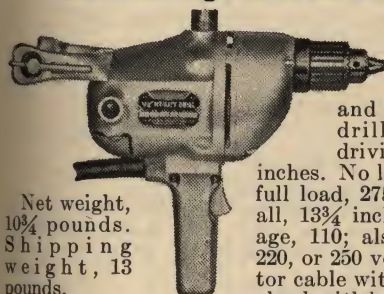
No load speed, 375 rpm. Overall length, 14 1/4 inches.

Furnished with 3-jaw Jacobs chuck and key; 3-wire cable with attachment plug; safety switch in side handle; spade handle with chuck-key holder; pipe side handle.

Net weight, 9 1/8 pounds.

All Voltages, Ship. Wt., 11 3/4 Lb. (Code No. 38). ea. \$35.00

Black & Decker 1/2-Inch Utility Ball-Bearing Portable Electric Drills



Capacity in steel, 1/2 inch; in hardwood, 1 inch.

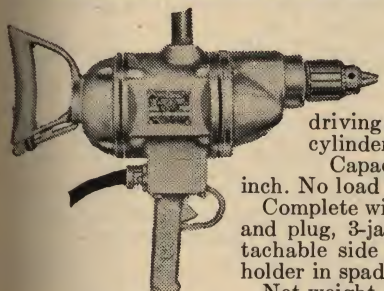
For maintenance and installation work; drilling all materials; driving hole saws to 3 1/2 inches. No load speed, 400 rpm.; full load, 275 rpm. Length over all, 13 3/4 inches. Standard voltage, 110; also available for 32, 220, or 250 volts. With 3-conductor cable with plug, 3-jaw Jacobs chuck with key, automatic-release

Net weight, 10 3/4 pounds. Shipping weight, 13 pounds.

switch with locking pin, spade handle with key holder, detachable pipe handle, and universal motor for a.c. or d.c. All Voltages (Code No. 361).....each \$53.00

Black & Decker 1/2-Inch Heavy Duty Ball-Bearing Portable Electric Drills

Universal Motor for A.C. or D.C., 32, 110, 220 or 250 V.



Will bite through the heaviest wood or toughest steel. This is the proper tool to use for driving spring expanded type cylinder grinders and hones.

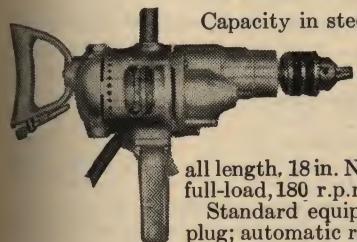
Capacity in steel, up to 1/2 inch. No load speed, 500 rpm.

Complete with 3-conductor cable and plug, 3-jaw geared chuck, detachable side handle. Chuck key holder in spade handle.

Net weight, 16 1/2 pounds.

All Voltages (Code No. 40). Ship. Wt., 18 1/4 Lb. each \$68.00

Black & Decker 5/8-Inch Utility Power Drills



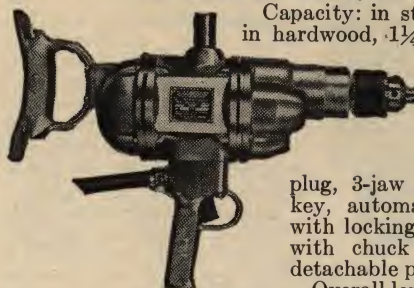
Capacity in steel, 5/8 to 1 inch; in hardwood, 1 1/4 in. Triple gear reduction. Motor mounted on ball bearings. Chuck spindle operates on tapered roller bearings. Overall length, 18 in. No-load speed, 300 r.p.m.; full-load, 180 r.p.m.

Standard equipment: 3-wire cable and plug; automatic release switch with locking pin in side handle; spade handle with chuck-key holder; 5/8-inch geared chuck and key; detachable pipe handle; universal a.c. or d.c. motor. Standard voltage, 110; also available for 32, 220, or 250 volts. Net wt., 17 pounds.

All Voltages (Code No. 238).....each \$60.00

Black & Decker 5/8-Inch Heavy Duty Ball-Bearing Electric Drills

For 110, 220, or 250 Volts, A.C. or D.C.



Capacity: in steel, 5/8 to 1 inch; in hardwood, 1 1/4 inches.

Has roller-bearing equipment on chuck spindle.

With 3-conductor cable and plug, 3-jaw Jacobs chuck and key, automatic-release switch with locking pin, spade handle with chuck key holder, and detachable pipe handle.

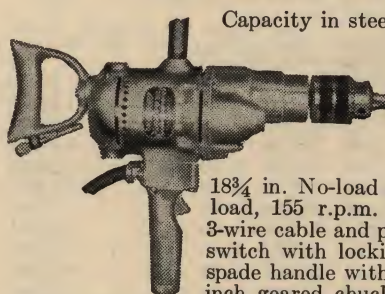
Overall length, 20 1/4 inches.

Speed: no load, 450 rpm.; full load, 265 rpm.

Net weight, 22 1/2 pounds. Shipping weight, 27 3/4 pounds.

All Voltages (Code No. 42).....each \$83.00

Black & Decker 3/4-Inch Utility Power Drills



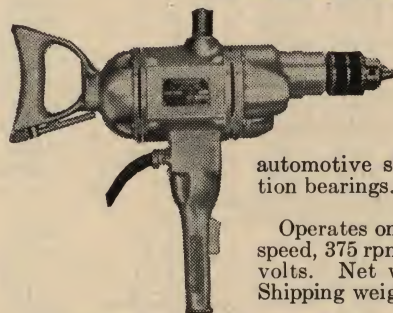
Capacity in steel, 3/8 to 3/4 in.; in hardwood, 1 1/2 in. Triple gear reduction. Motor mounted on ball bearings. Chuck spindle operates on tapered roller bearings. Overall length,

18 3/4 in. No-load speed, 250 r.p.m.; full-load, 155 r.p.m. Standard equipment; 3-wire cable and plug; automatic release switch with locking pin in side handle; spade handle with chuck-key holder; 3/4-inch geared chuck and key; detachable

pipe handle; universal a.c. or d.c. motor. Standard voltage, 110; also for 220 or 250 v. Net wt., 19 1/4 lb.

All Voltages (Code No. 239).....each \$68.00

Black & Decker 3/4-Inch Heavy Duty Electric Drills



Capacity in steel, 3/8 to 3/4 inch.

For building contractors, heavy machinery plants, car and locomotive maintenanceshops,

automotive shops, etc. Anti-friction bearings.

Operates on a.c. or d.c. No load speed, 375 rpm. For 110, 220 or 250 volts. Net weight, 27 1/2 pounds. Shipping weight, 34 pounds.

Complete with cable, plug, 3-jaw geared chuck, and detachable side handle.

All Voltages (Code No. 45).....each \$94.00

Black & Decker 7/8-Inch Heavy Duty Portable Electric Drills



For heavy work in mines, quarries, shipyards, electrical and construction jobs, etc.

Equipped with No. 3 Morse taper socket. Anti-friction bearings.

No load speed, 375 r.p.m.

Universal motor, 110, 220, or 250 volts a.c. or d.c.

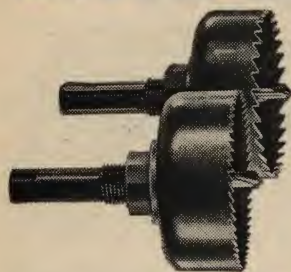
Weight, 24 3/4 pounds.

Extended Spindle (Code No. 46). ea. \$98.00

Internal Spindle (Code No. 302)ea. 103.00

Black & Decker Hole Saws

For 1/4, 3/8, 1/2, 5/8, and 3/4-Inch Black & Decker Drills



Used in automotive shops, in plumbing, heating, and electrical work. Increases the range of a 1/2-inch electric drill to 4 inches. Cuts holes in any wood or metal that a hacksaw will cut. Mandrel automatically holds a 1/4-inch twist drill which drills pilot hole, and serves as a guide for saw.

Regular. Made of hardened tungsten steel. Comparable to carbon bits. Available in

two types: a coarse tooth saw for wood, cast iron, bakelite, and other thick coarse material; and a fine tooth saw for sheet metal, steel porcelain, and other fine thin material.

High Speed. Made of a high grade tool steel and is comparable to the high speed drill bits. Has tooth arrangements between fine and coarse and used for cutting at high speed through tough metal.

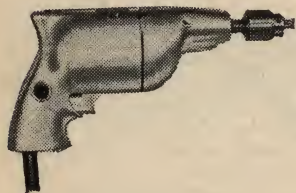
Hole Saws Only (without Mandrels)

Saw Size Inches	Regular		Each	High Speed		Pipe Tap Inches	Conduit Inches	Use with Mandrel No.
	Coarse No.	Fine No.		No.	Each			
5/8	14906	23051	\$1 95	21747	\$1.50	3/8	14903	
3/4	14908	16882	.65	21748	1.50	3/4	14903	
7/8	14908	16883	.65	21749	1.50	3/4	14903	
1 1/16	14910	21382	.65	21771	1.50	1	14903	
1 1/8	22953	21875	.85	22809	1.50	1	14903	
1 1/4	14912	16885	.85	21772	1.50	1 1/4	14904	
1 1/2	17679	17678	.85	21773	1.50	1 1/2	14904	
1 3/4	14911	16886	.85	21781	1.50	1 3/4	14904	
1 7/8	14913	16887	.85	21782	1.50	1 7/8	14904	
2	14914	16888	.85	21783	1.50	2	14904	
2 1/8	14915	16889	1.00	21784	1.50	2 1/8	14904	
2 1/4	14916	16890	1.00	21785	2.00	2 1/4	14904	
2 1/2	14917	16891	1.00	21786	2.00	2 1/2	14904	
2 3/4	14918	16892	1.20	21787	2.00	2 3/4	18028	
3	14919	16893	1.20	21788	2.65	3	18028	
3 1/8	14920	16894	1.20	21789	2.65	3 1/8	18028	
3 1/4	14922	16895	1.40	21790	2.65	3 1/4	18028	
3 1/2	14921	16896	1.40	21791	2.65	3 1/2	18028	
3 3/4	14923	16897	1.40	21792	2.65	3 3/4	18028	
4	14924	16898	1.50	21793	2.65	4	18028	
	14925	16899	1.50	21794	2.65		18028	
	14927	16900	1.50	21795	2.65		18028	
	14926	16901	1.65	21796	2.65		18028	
	14930	16902	1.65	21797	2.65		18028	
	14929	16903	1.65	21798	2.65		18028	
	14928	16904	1.65	21799	2.65		18028	
	14932	16905	2.00	21800	4.50		18028	

Mandrels, with Pilot Drills

No.	Description	Each
22181	For 3/4 to 1 1/4" Saws, 1/4 to 3/8" Elec. Drills.	\$1.50
14903	For 3/4 to 1 1/4" Saws, 1/2" and Larger Elec. Drills.	1.65
22182	For 1 1/4 to 1 3/4" Saws, 1/4 to 3/8" Elec. Drills.	1.50
14904	For 1 1/4 to 1 3/4" Saws, 1/2" or Larger Elec. Drills.	1.65
18028	For 2 to 4" Saws, 1/2" or Larger Elec. Drills.	2.00
22192	Pilot Drill Only, for Small Mandrels.	.35
14935	Pilot Drill Only, for Large Mandrels.	.35
23050	Pilot for 3/8" Hole Saw Only	.35

No. 8 Black & Decker Portable Electric Tapguns



For production tapping in metal with portable unit. Reversing mechanism automatically backs tap out of threaded hole. Equipped with 3/8-inch Jacobs chuck and key.

Capacity in mild steel, 3/16 inch; in cast iron, 1/8 inch; in brass or aluminum, 3/8 in. Universal motor operates on a.c. or d.c.

No load speed, 400 rpm. Furnished for 32, 110, 220 or 250 volts.

Overall length, 9 1/4 inches.

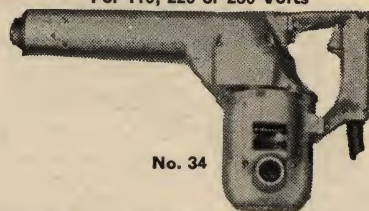
Net weight, 3 3/4 pounds.

No. 8, All Voltages.....each \$64.00

Black & Decker Portable Electric Hammers

Universal Motor Operating On A-C. or D-C.

For 110, 220 or 250 Volts



No. 34

These electric hammers are self-contained units operated by universal motors and require no extra equipment.

For drilling and channeling in concrete, stone or brick. Caulking joints and seams in tanks, pipe lines; removing scale; installation work; tamping molds and concrete forms; vibrating concrete forms for smooth finish; gouging and shaping; cleaning cavities; tree surgery work.

No. 30

Capacity in concrete or brick, 1 1/2 inch.

Standard equipment includes No. 22587 chuck wrench with dust-shield; one 1/2-inch speed-bit; 3-conductor cable and plug; rocker-type switch; tool retaining spring; drift key; carrying case and can of oil.

No. 30, All Voltages (Code No. 102).....\$85.00

Number of Blows per Minute.....2400

Overall Length.....inches 12 7/8

Net Weight.....pounds 5 3/4

Shipping Weight.....pounds 14

No. 32

Capacity in concrete or brick, 3/4 inch.

Standard equipment includes No. 22587 chuck wrench with dust-shield; one 5/8-inch star drill; 3-conductor cable and plug; trigger switch; tool retaining spring; drift key; carrying case and can of oil.

No. 32, All Voltages (Code No. 103).....\$115.00

Number of Blows per Minute.....2300

Overall Length.....inches 14 5/8

Net Weight.....pounds 10 1/4

Shipping Weight.....pounds 22

No. 34

Capacity in concrete or brick, 1 3/8 to 1 1/2 inches.

Standard equipment includes No. 22754 chuck-turning wrench with dust-shield; one 1-inch star-drill; 3-conductor cable and plug; trigger switch; tool retaining spring; drift key; carrying case and can of oil.

No. 34, All Voltages (Code No. 104).....\$145.00

Number of Blows per Minute.....2200

Overall Length.....inches 17 3/8

Net Weight.....pounds 19 1/4

Shipping Weight.....pounds 32

No. 36

Capacity in concrete or brick, 1 1/4 to 2 inches.

Standard equipment includes No. 21726 turning handle; one 1 1/2-inch star-drill; 3-conductor cable and plug; trigger switch; tool retaining yoke; carrying case and can of oil.

No. 36, All Voltages (Code No. 105).....\$195.00

Number of Blows per Minute.....1950

Overall Length.....inches 20 1/4

Net Weight.....pounds 29 1/4

Shipping Weight.....pounds 44

Black & Decker Accessories for Hammer Tools

Special Hammer Lubricating Oil for All Hammers

No. 22926, 3-Oz. Can. ea. \$.25 No. 22931, Qt. Can. ea. \$.85

No. 22930, Pint Can. ea. .50 No. 22932, Gal. Can. ea. 2.50

Carrying Cases for Hammers and Accessories

No. 18296, for No. 30 Hammer.....each \$7.75

No. 18389, for No. 32 Hammer.....each 9.00

No. 21003, for No. 34 Hammer.....each 10.00

No. 18679, for No. 36 Hammer.....each 12.50

Tool Retaining Springs

To hold straight-shank tools in nose piece of hammer.

No. 10909, for Nos. 30 and 32 Hammers.....each \$.15

No. 10336, for No. 34 Hammer.....each .15

Dust Shields

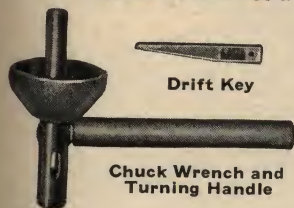
Used in overhead drilling.

No. 17746, for Chuck Wrenches Nos. 22587 & 22510.....each \$.35

No. 17747, for Chuck Wrenches Nos. 22754 & 22749.....each .35

Black & Decker Hammer Tools

Chuck Wrenches and Turning Handles



ing handles are spline mounted to absorb vibration.

Used with Star drills and Diamond points to adapt the widest possible range of tool sizes to various hammers; combinations of shank sizes (fitting nose of hammer) and taper sockets (fitting drill tapers) are shown in the table below.

Built to withstand hammer impact, and their turning handles are spline mounted to avoid breakage and to

No.	Each	Description	For Drill Sizes In.	Taper Shank Sock- et No.	Use with Hammer No.
22587	\$3.85	Chuck Wrench.	Up to 3/4	1 A	30 & 32
22749	4.25	Chuck Wrench.	Up to 3/4	2 A	34
22754	5.00	Chuck Wrench.	1 1/16-1 1/8	2 B	34
22510	5.00	Chuck Only....	1 1/16-1 1/8	2 B	36
21726	2.00	Turning Handle	*Over 1 1/8	..	36

*Star drills 1 1/4 inches and up are made with No. 2 shank to fit directly into nose piece of No. 36 hammer. Just below shank is square that accommodates No. 21726 turning handle.

No. 7276 Drift Keys

No. 7276, For all chuck wrenches.....each \$.35

Star Drills



Packed 5 to a box.

No.	Each	Diam. Point In.	Length Over All In.	Type Shank	USE CHUCK WRENCH OR TURNING HANDLE FOR HAMMER, NO.			
					30	32	34	36
7167	\$.60	1/4	5	*A	22587	22587	\$22749	.....
7168	.65	5/16	5	*A	22587	22587	\$22749	.....
7160	.65	3/8	5	*A	22587	22587	\$22749	.....
7169	.70	7/16	5	*A	22587	22587	\$22749	.....
7161	.70	1/2	9	*A	22587	22587	\$22749	.....
9364	.85	1/2	18	*A	22587	22587	\$22749	.....
7170	.75	9/16	9	*A	22587	22587	\$22749	.....
7162	.75	5/8	9	*A	22587	22587	\$22749	.....
9372	.90	5/8	18	*A	22587	22587	\$22749	.....
7171	.80	11/16	9	*A	22587	22587	\$22749	.....
7163	.80	3/4	9	*A	22587	22587	\$22749	.....
9380	1.00	3/4	18	*A	22587	22587	\$22749	.....
9382	1.25	3/4	24	*A	22587	22587	\$22749	.....
23081	.80	3/4	9	*B	.....	.....	22754	.....
23082	1.00	3/4	18	*B	.....	.....	22754	.....
23083	1.25	3/4	24	*B	.....	.....	22754	.....
7172	.90	13/16	9	*B	.....	.....	22754	\$22510
7097	.90	7/8	9	*B	.....	.....	22754	\$22510
9388	1.25	7/8	18	*B	.....	.....	22754	\$22510
9390	1.50	7/8	24	*B	.....	.....	22754	\$22510
7173	1.00	15/16	9	*B	.....	.....	22754	\$22510
7096	1.00	1	9	*B	.....	.....	22754	\$22510
9396	1.50	1	18	*B	.....	.....	22754	\$22510
9398	1.75	1	24	*B	.....	.....	22754	\$22510
10751	1.25	1 1/8	12	*B	.....	.....	22754	\$22510
10981	2.00	1 1/8	24	*B	.....	.....	22754	\$22510
21942	3.25	1 1/4	12	†No. 2	.....	.....	21726	21726
21943	4.25	1 1/4	24	†No. 2	.....	.....	21726	21726
21944	3.75	1 3/8	12	†No. 2	.....	.....	21726	21726
21945	4.75	1 3/8	24	†No. 2	.....	.....	21726	21726
21946	4.25	1 1/2	12	†No. 2	.....	.....	21726	21726
21947	5.25	1 1/2	24	†No. 2	.....	.....	21726	21726
21948	5.25	1 3/4	12	†No. 2	.....	.....	21726	21726
21949	6.25	1 3/4	24	†No. 2	.....	.....	21726	21726
21950	6.00	2	12	†No. 2	.....	.....	21726	21726
21951	7.00	2	24	†No. 2	.....	.....	21726	21726

*Taper shank. †Straight shank.

†Beyond the hammer's rated capacity.

Below the safe limit which can be used with hammer indicated, without danger of excessive drill breakage.

Electric Hammer Handbooks. A complete and illustrated booklet on construction, proper operation and applications of portable electric hammers. Suggests many additional uses for hammers, shows how all accessory tools are used and offers valuable pointers on care and operation of these versatile tools. Sent free upon request.

Speed Bits



Taper socket, A.

No.	Size Inches	Per Dozen	No.	Size Inches	Per Dozen
23453	3/16x3	\$5.40	11367	1 1/2x9	\$7.20
11363	1/4x3 1/2	5.40	24025	3/16x5	7.20
11364	3/16x3 3/4	6.00	11368	9/16x9	7.80
11365	3/8x4	6.00	24026	5/8x5	7.20
11366	7/16x4 1/2	6.60	11369	5/8x9	7.80
24024	1 1/2x5	6.60	.....	.....	.....

Cold Chisels



No.	Each	Width Blade Inches	Length Over All Inches	Shank No.	Use with Hammer No.
11108	\$1.40	5/8	8	1	30 or 32
7095	1.50	7/8	9	2	34 or 36
9405	2.25	7/8	20	2	34 or 36

Flat Wood Chisels



20744	\$5.00	1	12	1	30 or 32
20746	5.50	1 1/2	12	1	30 or 32
20748	5.00	1	14	2	34 or 36
20751	5.50	1 1/2	14	2	34 or 36
9039	3.00	2	9	2	34 or 36

Wood Gouges

20743	\$5.50	1	12	1	30 or 32
20745	6.00	1 1/2	12	1	30 or 32
20750	5.50	1	14	2	34 or 36
20749	6.00	1 1/2	14	2	34 or 36
9037	4.00	2	9	2	34 or 36

Scaling Chisels



12446	\$2.15	1 1/4	9	1	30 or 32
17314	2.25	1 1/2	9	1	30 or 32
17315	2.35	2	9	1	30 or 32
12401	2.40	1 1/2	12	2	34 or 36
22886	2.50	2	12	2	34 or 36
22887	4.25	2 1/2	12	2	34 or 36

4-Point Scaling Tools

17335	\$2.25	9	1	30 or 32
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Seam Tools



17232	\$2.25	9	1	30 or 32
9035	2.35	9	2	34 or 36

Tool Blanks

11107	\$1.15	10	1	30 or 32
7267	1.25	12	2	34 or 36

Beading Tools

10954	\$5.00	9	2	34 or 36
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Web Cutting Tools

20859	\$6.75	19	2	34 or 36
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Bushing Tools



11624	\$6.25	8	1	30 or 32
9040	6.25	9	2	34 or 36

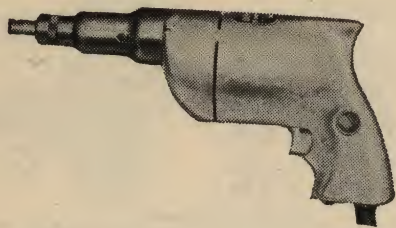
Feed Bars

22922	\$3.00	31	1	32
22904	3.25	.....	35	2	34 or 36

Bull Points



9036	\$1.80	.....	12	2	34 or 36
9410	2.50	.....	20	2	34 or 36

No. 8 Black & Decker Electric Scruguns**Adjustable Clutch Screwdriver**

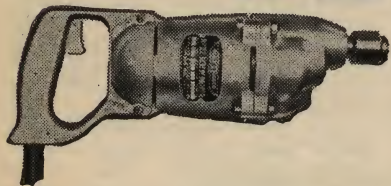
A screwdriver for production work on wood and metal. For driving self-tapping screws, Nos. 4 to 12. The adjustable clutch can be set for any desired tension, and the free spindle idles until operating pressure engages the clutch jaws. Clutch is quickly adjusted by turning knurled collar with a pin through slot in protecting sleeve. This Scrugun is balanced and fits the hand.

Standard equipment: 2-pole automatic release trigger switch and locking pin, mounted as a unit with cord protector, 3-wire cable and plug (third wire for grounding); one No. 8 bit with finder and sleeve; Universal motor which operates on a-c. or d-c.

Standard voltage, 110. Also available for 220 or 250 volts.

*Standard Spindle Speed, No Load.....rpm.	750
No. 8, with Double Adjustable Clutch (Code No. 350) ea.	\$57.00
Overall Length Including Bit.....inches	9½
Spindle Offset.....inches	¾
Shipping Weight.....pounds	4¾

*Optional speeds at no extra cost: 500, 1000 or 1500 rpm.

Black & Decker Electric Screwdrivers and Wrenches**Positive Clutch**

Standard equipment: quick-change chuck with ½-inch hexagon socket; 13° positive clutch; 3-conductor cable and attachment plug (third wire for grounding);

two standard bits with centering sleeves; automatic release switch with locking pin. Universal motor operates on a-c. or d-c. Standard voltage, 110; also available for 32, 220, or 250 volts.

No. 12

Capacity: wood screws, up to No. 14x2½ inches; self-tapping screws, up to ⅝ inch diameter; lag screws, up to ¼x2 inches; machine screws and nuts, up to ⅜ inch diameter. Overall length, not including bit, 13¼ inches.

Furnished with one No. 8 and one No. 12 standard bit.

Net weight, 6¾ pounds. Shipping weight, 9 pounds.

No. 12, All Voltages, 500 RPM. No-Load Speed (Code No. 53).....each \$58.00

No. 119, Bench Stand.....each 14.00

Special Speeds 750, 1000 or 1600 Rpm.....extra 2.50

Reversing Switch.....each 7.50

No. 22

Capacity: wood screws, up to No. 18x3½ inches; self-tapping screws, up to ⅝ inch diameter; lag screws, up to ⅝x3 inches; machine screws and nuts, up to ½ inch diameter. Overall length, not including bit, 14¼ inches.

Furnished with one No. 10 and one No. 14 standard bit.

Net weight, 9 pounds. Shipping weight, 12 pounds.

No. 22, All Voltages, 500 RPM. No-Load Speed (Code No. 54).....each \$72.00

No. 119, Bench Drill Stand.....each 14.00

Special Speeds 750, 1000 or 1600 Rpm.....extra 2.50

Reversing Switch.....each 7.50

Black & Decker Portable Electric Sanders

Has universal motor, operates on a-c. or d-c. Standard voltage, 110. Can be furnished for 220 or 250 volts at no extra charge.

7-Inch Junior

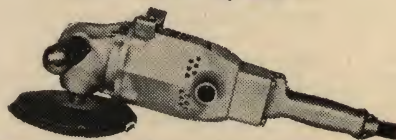
Designed for intermittent service in shops that do not require the speed, power and weight of a heavy duty sander. Ideal for light sanding, metal finishing or touch-up work.

Spindle diameter and thread, ⅝-inch—11 thread. No load speed, 3200 rpm. Overall length, not including pad, 14¾ inches.

Furnished complete with 3-conductor cord and plug, detachable side handle, moulded sisal pad, three 7-inch sanding discs (1 coarse, 1 medium, 1 fine).

Net weight, 7¾ pounds.

7-Inch Junior, All Voltages (Code No. 91).....each \$39.50

7-Inch Special

A ball bearing production unit for all operations requiring a light weight tool. It is well balanced and easy to handle. Ideal for sheet metal shops, fender and body shops, foundries, shipyards and stone and tile work.

Spindle diameter and thread, ⅝-inch—11 thread. No load speed, 4200 rpm. Overall length, not including pad, 17½ in.

Furnished complete with 3-conductor cord and plug, detachable side handle, moulded rubber pad, three 7-inch sanding discs (1 coarse, 1 medium, 1 fine).

Net weight, 12¾ pounds.

7-Inch Special, All Voltages (Code No. 92).....each \$53.00

7-Inch Heavy Duty

This sander is for heavy duty sanding and metal finishing of all types, on a high speed production basis; replacing hand operations with file, emery or sandpaper.

Sturdy gear construction, housed in a steel gear case. Completely dust-sealed commutator and switch compartments. Improved ventilating system forces air straight through ample vent slots. Flexible pad insures maximum working area and adapts tool to flat or curved surfaces.

Spindle diameter and thread, ⅝-inch—11 thread. No load speed, 4200 rpm. Overall length, not including pad, 18 inches.

Furnished complete with 3-conductor cable and plug; plunger switch; detachable side handle, which can be used on either side of unit; 7-inch flexible pad; three 7-inch sanding discs (coarse, medium, fine).

Net weight, 14¾ pounds.

7-Inch Heavy Duty, All Voltages (Code No. 93).....each \$75.00

9-Inch Standard

Constructed along the same lines as the 7-inch Super Service Sander. Intended for shops desiring a larger working area and less speed on intermittent applications.

Spindle diameter and thread, ⅝-inch—11 thread. No load speed, 3300 rpm. Overall length, not including pad, 18½ inches.

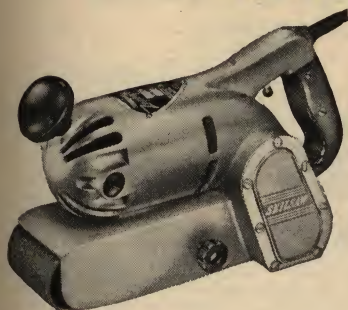
Furnished complete with 3-conductor cable with plug; plunger switch; detachable side handle, for either side of unit; 9-inch flexible pad; three sanding discs (coarse, medium, fine).

Net weight, 14¾ pounds.

9-Inch Standard, All Voltages (Code No. 94).....each \$78.00

No. JY Skilsaw Zephyrplane Jr. Sanders

110 and 220 Volts



For craftsmen, small woodwork shops, lumber yards, etc. Aluminum alloy die cast frame.

Molded bakelite handle. Pulleys, 2 inches diameter. Belt, 2 1/4 inches wide, easy to change.

Universal motor for a.c. or d.c.

Speed, 600 fpm. Size overall, 3 3/4 x 12 x 7 inches.

Equipped with resilient metal backed pad, 10-foot cord and one sanding belt. No. JY, Specify Voltage, Wt., 9 1/2 Lb. each \$49.50

Skilsaw Zephyrplane Belt Sanders

Developed especially for boat builders, small woodwork and cabinet shops, manual training classrooms, etc.

Perfectly balanced to exert uniform pressure over entire sanding surface. Touch-control lever instantly releases tension on belt, makes belt changing easy. Interchangeable knob handle can be moved from top to nose of sander for easier sanding of vertical surfaces.

Has ball bearings on armature and transverse shaft; Oilite bearings on idler and driver pulley. Handle is of molded bakelite.

Pulleys, 2 1/4 inches in diameter. Driver pulley is molded rubber with steel insert.

Belt is 3 inches wide. Easy to center. Belt tension is kept uniform by coil spring. Belt speed, free, 1200 feet per minute.

Right side of machine is flush with edge of belt for sanding close to upright objects.

With 110-volt universal motor; d.c. or a.c. to 60 cycles.

With resilient-backed metal pad, 10 feet of 3-conductor rubber-covered cord with 2-prong connector, medium grade sanding belt, and necessary lubricant.

Overall size, 4 1/4 x 13 1/4 x 7 inches.

Net weight, 13 1/4 pounds. Shipping weight, 24 pounds.

Each..... \$82.50

Skilsaw Sanding Belts**Zephyrplane Jr.****Type 2A—For Wood**

Grade.....	3 1/2	3	2 1/2	2	1 1/2	1	1/2	1/0	2/0	3/0
Each.....	\$.20	.20	.19	.18	.18	.17	.15	.15	.14	.14

Type 2B—For Metal

Grade..	24	30	36	40	50	60	80	100	120	150	180	240
Each...	\$.18	.18	.18	.18	.16	.16	.16	.16	.16	.16	.16	.16

Type 2D—For Removing Varnish

Grade.....	3	2 1/2	2	1 1/2	1	1/2
Each.....	\$.20	.19	.18	.18	.17	.15

Zephyrplane**Type 3A—For Wood**

Grade.....	3	2 1/2	2	1 1/2	1	1/2	1/0	2/0	3/0
Each.....	\$.21	.21	.21	.19	.19	.19	.17	.17	.17

Type 3B—For Metal

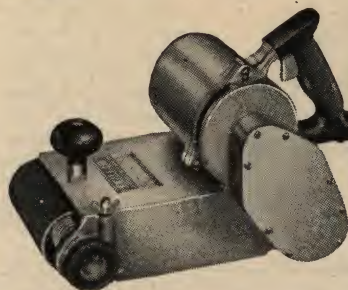
Grade.....	24	30	36	40	60	100	120	180	240	320
Each.....	\$.21	.21	.21	.19	.19	.17	.17	.17	.17	.17

Type 3D—For Removing Varnish

Grade.....	3	2 1/2	2	1 1/2	1	1/2
Each.....	\$.21	.21	.21	.19	.19	.19

Skilsaw Electric Sanders**Model A**

For sanding on wood, metal, stone and composition materials.



Universal motor for d.c. or a.c. up to 60 cycles. Double pole switch bakelite enclosed, momentary contact. Aluminum die-cast frame. Pinion and driven gears of helical nickel steel, heat-treated; bronze alloy idler. Ball bearings throughout. Flexible asbestos pad; removable if hard base is needed.

Belt speed, free 1500 fpm. Belt is 4 1/2 inches wide and can be quickly removed. Simply release spring tension by means of convenient hand-wheel. Easy to center by simple adjustment of wing nut. Accurate and quick, even when sander is working. Belt tension is kept uniform by coil spring.

Right side of machine flush with edge of sand belt for surfacing close to upright object parallel to belt.

Sizes overall, 7x14x9 inches high.

Equipment includes flexible base pad; 10 feet of rubber covered cord with 2-prong connector; medium grade sanding belt and a tube of lubricant.

Model A, Net Weight, 18 Pounds..... each \$105.00

Model B with Vacuum Dust Collector

Of the same construction as the Model A with the addition of an efficient vacuum dust collecting system capable of



eliminating all dust and dirt resulting from sanding. This prevents loading of belts, insures faster cutting, longer belt life. The vacuum system consists of a separate universal motor, operating at 10,000 rpm., mounted on sander frame and connected in parallel to sander motor. Strong vacuum is created by a 6-blade fan. Vacuum intake aperture

is placed to pick up all sanding dust which is instantly discharged into a cloth bag.

When operating switch in sander handle is closed, both motors start. A separate switch cuts off vacuum motor at any time.

Model B, Net Weight, 23 Pounds..... each \$135.00

Belts for Skilsaw Sanders

Made of electric furnace abrasives of the highest quality. Cloth backed, each band spliced at 45° and cemented under pneumatic pressure. Tension tested, insuring smooth and even movement over pulleys.

For Wood—Type 4A, aluminum oxide. Grades 3, 2 1/2, 2, 1 1/2, 1, 1/2, 1/0, 2/0, 3/0.

Grades 3 to 1.....	each \$.34
Grades 1 1/2 to 3/0.....	each .29

Spaced Grain, for Wood—Type 4D, aluminum oxide. Recommended for use when removing varnish.

Grades 3, 2 1/2, 2, 1 1/2, 1.....	each \$.34
Grade 1/2.....	each .29

For Metal—Type 4B, aluminum oxide. Grades 24, 30, 36, 40, 50, 60, 80, 100, 120, 150, 180, 240, 320.

Grades 24 to 50.....	each \$.34
Grades 60 to 320.....	each .29

For Stone—Type 4C, silicon carbide. Grades 24, 30, 36, 40, 50, 60, 80, 100, 120, 150, 180, 220, 320.

Used on marble, cast stone, natural stone and slate.

Grades 24 to 50.....	each \$.34
Grades 60 to 320.....	each .29

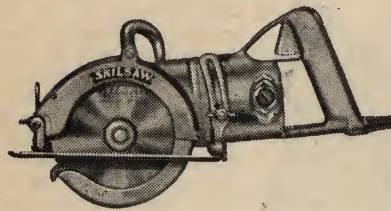
No. 926 Fabric Belt—A medium hard endless fabric belt for polishing; thickness, 3/32 inch.

No. 926..... each \$3.00

NOTE—When ordering belts, specify type and grade.

No. 67 Skilsaw Portable Electric Saws**6-Inch Blade—1 $\frac{7}{8}$ -Inch Cut in Wood**

110 and 220 Volts



For use by carpenters, builders for plant maintenance and remodeling work. Amply powered for use with abrasive discs for scoring tile, concrete, limestone, etc. Ball bearings throughout.

Free speed, 3400 rpm. Base adjusts vertically from $\frac{3}{4}$ to 1 $\frac{7}{8}$ inches. Bevel cuts at 45° through lumber 1 $\frac{1}{8}$ inches thick. Automatic telescoping guard shields saw blade when not cutting. Length overall, 15 $\frac{1}{2}$ inches.

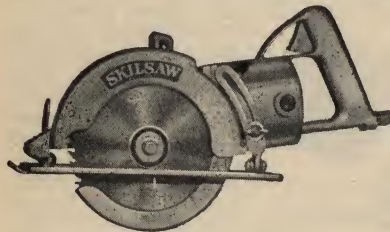
Universal motor operates on either d.c. or a.c. up to 60 cycles.

Equipped with combination blade, 10 feet of 3-conductor cord with connector, steel carrying case, socket wrench and tube of lubricant.

No. 67, Net Weight, 11 $\frac{1}{2}$ Pounds.....each **\$75.00**

No. 77 Skilsaw Portable Electric Saws**7-Inch Blade—2 $\frac{3}{8}$ -Inch Cut in Wood**

110 and 220 Volts



For form work, maintenance, cutting freight car bracing timbers, etc. Fast in cutting metals, concrete, stone, tile and many composition materials.

Ball bearings throughout.

Free speed, 3200 rpm. Base adjusts vertically from $\frac{3}{4}$ to 2 $\frac{3}{8}$ inches. Bevel cuts at 45° through lumber 1 $\frac{3}{4}$ inches thick. Automatic telescoping guard. Length overall, 18 inches.

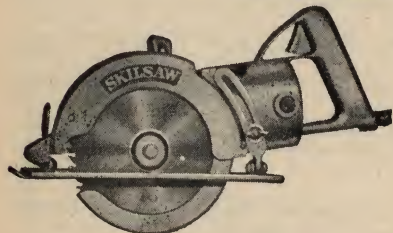
Universal motor operates on either d.c. or a.c. up to 60 cycles.

Equipped with combination blade, 10 feet of 3-conductor cord, steel carrying case, socket wrench and tube of lubricant.

No. 77, Net Weight, 15 Pounds.....each **\$105.00**

No. 87 Skilsaw Portable Electric Saws**9-Inch Blade—2 $\frac{7}{8}$ -Inch Cut in Wood**

110 and 220 Volts



Provides quick adjustment for depth and bevel cutting. Ideal for form work, for maintenance work in industrial plants, for building stock bins and partitions, for cutting freight car bracing timbers. Fast in cut-

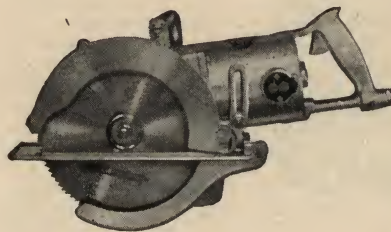
ting stone, tile, etc.; aluminum and copper up to $\frac{1}{2}$ inch; lead sheets up to 1 inch. Ball bearings throughout.

Free speed of blade, 3200 rpm. Base adjusts vertically, for depth of cut from 1 to 2 $\frac{7}{8}$ inches. Bevel cuts at 45° through lumber 2 $\frac{3}{8}$ inches thick. Automatic telescoping guard shields saw blade when not cutting. Blower keeps line of cut clear of sawdust. Length overall, 19 inches. Universal motor operates on either d.c. or a.c. up to 60 cycles. Equipped with combination blade, 10 feet of 3-conductor cord, steel carrying case, socket wrench and tube of lubricant.

No. 87, Net Weight, 22 Pounds.....each **\$135.00**

No. 0 Skilsaw Portable Electric Saws**10-Inch Blade—3 $\frac{3}{4}$ -Inch Cut in Wood**

110 and 220 Volts



Powered for timber work in industry and for major construction operations.

Used widely for cutting stone, concrete, tile, etc. Capable performance under severe sawing conditions. Ball bearings throughout.

Free speed, 2600 rpm. Base adjusts vertically from $\frac{7}{8}$ to 3 $\frac{3}{4}$ inches. Bevel cuts at 45° through lumber 2 $\frac{5}{8}$ inches thick. Approved safety guard. Length overall, 21 inches.

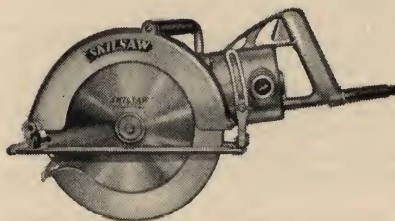
Universal motor operates on d.c. or a.c. up to 60 cycles.

Equipped with combination blade, 10 feet of 3-conductor cord, steel carrying case, socket wrench and tube of lubricant.

No. 0, Net Weight, 26 Pounds.....each **\$180.00**

No. 127 Skilsaw Portable Electric Saws**12-Inch Blade—4 $\frac{3}{8}$ -Inch Cut in Wood**

110 and 220 Volts



For heavy construction work, for railroad car building, bridge work and for mines. Proved heavy duty performance. Ball bearings throughout.

Free speed, 2400 rpm. Base adjusts vertically from 2 $\frac{3}{8}$ to 4 $\frac{3}{8}$ inches. Bevel cuts at 45° through lumber 3 $\frac{1}{8}$ inches thick. Automatic telescoping guard. Length overall, 22 inches.

Universal motor operates on d.c. or a.c. up to 60 cycles.

Equipped with combination blade, 10 feet of 3-conductor cord, steel carrying case, socket wrench and tube of lubricant.

No. 127, Net Weight, 32 Pounds.....each **\$195.00**

Skilsaw Saw Blades

A complete selection of Skilsaw Saw Blades and Abrasive Discs extends the utility of Skilsaw to countless cutting operations. Blades available for cutting wood, metal, stone and composition materials. Correct Blades for all special cutting applications gladly recommended.

Combination

A blade designed for all-around work; suitable for ripping or cross-cutting.

No.	376	377	378	379	380	382
Each.....	\$2.95	3.50	3.95	4.60	4.95	5.95
Diameter.....inches	6	7	8	9	10	12

Cut-Off

A desirable blade for all types of cross-cut work.

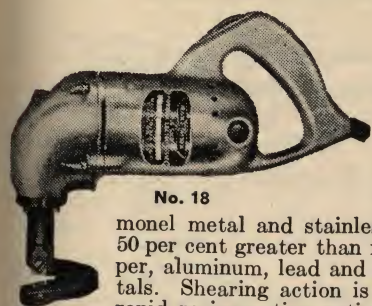
No.	309	356	293	357	324	334
Each.....	\$2.95	3.50	3.95	4.60	4.95	5.95
Diameter.....inches	6	7	8	9	10	12

Flooring

For repairing old floors. Also used by shipping clerks for opening boxes and crates where nails may be struck.

No.	347	358	348	359	349
Each.....	\$3.25	3.90	4.40	5.00	5.60
Diameter.....inches	6	7	8	9	10

Black & Decker Portable Lectro-Shears



No. 18

Will cut on a radius as small as $\frac{3}{4}$ inch, and easily follows a straight or curved, irregular line. Will cut up to its rated capacity in steel, galvanized iron; approximately one gage thinner in

monel metal and stainless steel; and at least 50 per cent greater than rated capacity in copper, aluminum, lead and other non-ferrous metals. Shearing action is accomplished by the rapid reciprocating action of a vertical blade against a stationary horizontal blade, set in a special shoe which indicates the correct cutting angle and adapts the tool to all types of cutting work.

The unit is full ball bearing equipped (except the eccentric which is steel on phosphor-bronze).

Smooth, streamlined aluminum housings eliminate all obstructions and unnecessary weight. It is not necessary to adjust blades for varying gages or types of metal. Blades can be reground without the necessity of special fixtures.

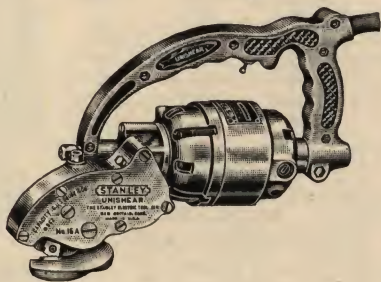
Standard equipment: 3-wire cable and plug (third wire for grounding); thumb control switch; one set Lectro-Shear blades; Allen set screw wrench; universal motor operating a.c. or d.c. Standard voltage, 110, also available for 220 or 250 volts.

Cutting speed, strokes per minute: no-load, 2500; full-load, 1500.

No.....	18	16
Complete for All Voltages.....each	\$60.00	76.00
Code No.....	258	259
Length Overall.....inches	11	11 $\frac{3}{4}$
Net Weight.....pounds	6 $\frac{3}{4}$	8
Shipping Weight.....pounds	9	10 $\frac{1}{4}$

No. 16A Stanley Electric Unishears

Universal Motor—110, 220, 230, 250 Volts, 60 Cycles or Less, A.C. or D.C.



Cuts up to 16-gage hot rolled steel (other materials in proportion) at a speed up to 15 feet per minute. Cuts straight lines, curves, angles and notches; turned up edges can be cut off close to surface. Inside cuts can be made after punching a $2\frac{5}{8}$ -inch hole in material and slipping yoke through hole.

Blades are easily removed for sharpening. Has strong aluminum alloy housing. Motor and steel worm mounted on seal type ball bearing at front and bronze sleeve bearing at back. Bronze worm gear, heavy alloy steel eccentric shaft mounted on oversize ball bearings.

Rocker aligned between bronze guides.

Gear case sealed against oil leakage and entrance of dirt, encloses mechanism in a continuous oil bath.

Heat treated alloy steel yoke with micrometer blade clearance adjustment. With rubber covered cable, long yoke, wrenches and lubricant, suitable for working in confined spaces and close to shoulders on formed up pieces.

Minimum radius, $1\frac{1}{8}$ inches. Length, $13\frac{1}{2}$ inches.

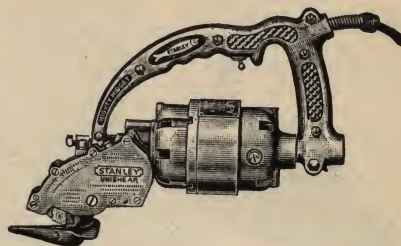
Shipping weight, 14 pounds.

No. 16A, All Voltages.....each \$70.00

Mighty-Midget Stanley Unishears

A motor driven hand shear that cuts material of any kind to 18 U. S. gauge hot rolled steel or galvanized iron.

Cuts with hair line accuracy without burr or distortion along straight, curved or irregular line.



Minimum radius, 1 inch. Speed as you feed up to 15 feet per minute. Universal motor. Weight, complete, $7\frac{1}{2}$ pounds.

With Universal Motor.....each \$54.00

Chicago Steel Slitting Shears

Pressed steel construction. Shear blades made of highest grade crucible steel.

Equipped with adjustable hold-down.

All parts interchangeable.

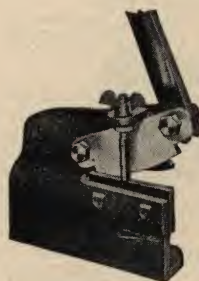
Easily operated and durable hand bench shear.

Indispensable for slitting sheet steel and for cutting steel bars, band iron, brake lining, belting, etc.

Capacity, $\frac{3}{16}$ x2-inch bars.

Ten-gauge sheets.

Weight, 26 pounds.



Each..... \$15.00

No. 14 Buffalo Slitting Shears

A powerful tool for bench use, hand operated, with leverage so powerfully compounded that 16-gage plates are easily cut.

Will cut 16-gage plates, taking a $1\frac{1}{4}$ -inch cut at each stroke. It will also shear $\frac{3}{4}$ x $\frac{1}{8}$ inch flats in one stroke. Will cut wire up to No. 0.

The body of the shear is a high grade drop forging, and all parts are of the best material available.

Length of shear, 6 inches. Height, $5\frac{1}{4}$ inches.

Shipping weight, 25 pounds.

No. 14.....each \$9.00

No. 19A Buffalo Bench Type Slitting Shears

A useful bench tool for any shop where quantities of sheets, flats and rounds are cut. Has cast steel frame and plunger guide, and a powerfully compounded leverage by means of steel lever and rack and pinion. A stripper outside prevents binding of metal and a slotted base permits shear to be bolted to table.

Shears and slits No. 12 gauge sheets; cuts rounds $\frac{1}{16}$ inch and flats $1\frac{1}{4}$ inch. Also cuts No. 0000 wire and No. 14 BX cable.

Length of knives, $4\frac{3}{16}$ inches.

Shipping weight, 25 pounds.

No. 19A.....each \$26.00



Beverly Throatless Shears



No. 1

Particularly adapted for intricate cutting jobs and is equal to any ordinary shear for straight work.

Unusually strong and durable, and requires very little attention due to the geared rack and pinion construction which gives great power with little effort.

This shear is so designed that the metal may be turned to any position while cutting, which allows any shape to be cut on the lighter metals without distortion.

Body is made of a high grade chrome-nickel steel.

Blades are made from high grade tool steel properly hardened and are adjustable for wear and quickly interchangeable.

The smooth cutting edges or blades produce a clean cut sheared edge, free from knurl.

No. 1 shear cuts up to 14-gage mild steel; No. 2 cuts up to 10-gage ($\frac{1}{8}$ -inch); No. 3 cuts up to 10-gage stainless steel.

No.	1	2	3
Each.....	\$25.50	37.50	75.00
Gage.....	14	10	$\frac{3}{16}$ in.
Weight..... pounds	16 $\frac{1}{2}$	33	54

Blades

No. 1, 14-Gage Steel.....	per set	\$3.00
No. 1, H. Y. C. C. (High Carbon Chrome Steel) per set		6.00
No. 2, 10-Gage Steel.....	per set	5.00
No. 2, H. Y. C. C. (High Carbon Chrome Steel) per set		10.00
No. 3, H. Y. C. C. (High Carbon Chrome Steel) per set		15.00

Buffalo Armor-Plate Punches and Shears



Nos. 2B



Nos. 103B and 104B

Equipped with twin lever socket which operates both punch and shear on Nos. 103B and 104B machines; and with compounded leverage on No. 2B machine.

The lever action is simple and powerful. All fittings are accurately machined from drop forgings. Knives, punches and dies are of best quality crucible steel, carefully ground and tempered. The frame is of Armor-Plate.

No.	2B	103B	104B
Each.....	\$65.00	90.00	125.00
Punches.....inches	$\frac{1}{4} \times \frac{1}{4}$	$\frac{3}{8} \times \frac{3}{8}$	$\frac{1}{2} \times \frac{1}{2}$
Flats.....inches	$2 \times \frac{5}{16}$	$2 \frac{1}{2} \times \frac{1}{2}$	$3 \times \frac{5}{8}$
Depth Throat.....inches	$\frac{3}{4}$	4	$5 \frac{1}{4}$
Punches Furnished.....inches	$\frac{1}{8}, \frac{3}{16}, \frac{1}{4}$	$\frac{1}{4}, \frac{5}{16}, \frac{3}{8}$	$\frac{1}{4}, \frac{3}{8}, \frac{1}{2}$
Shipping Weight..... pounds	118	196	357

Drop Forged Steel Screw Punches

Made of drop forged steel with machine steel screw. Punch and die made of tool steel, heat treated.

Furnished with punch, die, coupling nut and bar head screw.



Ratchet Head

Specifications

Size No.	Will Punch Hole Inches	Thick.	Maximum Opening Inches	Depth Throat Inches	Weight Pounds
0	$\frac{3}{8}$	$\frac{1}{8}$	$\frac{1}{16}$	$\frac{1}{4}$	5
1	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{16}$	$\frac{1}{8}$	20
2	$\frac{5}{8}$	$\frac{1}{2}$	$\frac{1}{16}$	$\frac{1}{2}$	48

Prices

Size No.	Complete Each	Extra Punch Each	Extra Die Each	Extra Coupling Nut Each	Extra Screw Each
0	\$22.00	\$1.50	\$1.50	\$1.50	\$6.00
1	24.00	1.50	1.50	1.75	9.00
2	32.00	1.75	1.75	2.00	11.00

Oswego Boilermakers' Steel Screw Punches



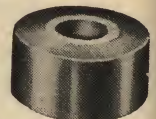
Screw Punch Complete



Punch



Coupling



Die

Body is of high grade electric steel casting, having a tensile strength of 80,000 pounds. Parts are carefully machined and fitted. In ordering, specify rivet sizes of punches and dies wanted. Punches are $\frac{1}{2}$ -inch larger than rivet sizes up to $\frac{1}{16}$ -inch; $\frac{1}{2}$ -inch and above, $\frac{1}{16}$ -inch larger.

One punch and die furnished with each screw punch.

Screw Punch No.	Complete Each	Punches Hole Inches	Thickness Plate Inches	Distance from Edge Inches	Weight Pounds Each
A or 00	\$20.00	$\frac{5}{16}$	$\frac{1}{4}$	$1 \frac{1}{2}$	13
B or 0	24.00	$\frac{1}{2}$	$\frac{1}{4}$	$1 \frac{1}{2}$	17
C or 1	30.00	$\frac{1}{2}$	$\frac{5}{16}$	$1 \frac{1}{2}$	25
D or 2	40.00	$\frac{3}{4}$	$\frac{1}{2}$	2	41
E or 3	60.00	$\frac{3}{4}$	$\frac{3}{4}$	$2 \frac{1}{2}$	64
F or $3 \frac{1}{2}$	75.00	$\frac{3}{4}$	$\frac{3}{4}$	$3 \frac{1}{2}$	78
G or 4	80.00	$\frac{3}{4}$	$\frac{3}{4}$	4	92

Repair Parts

Screw Punch No.	Body Each	Screw Each	Coupling Each	Punch Each	Die Each	Set Screw Each
A or 00	\$12.00	\$12.50	\$2.00	\$2.10	\$1.40	\$5.50
B or 0	16.00	12.50	2.00	2.10	1.40	.50
C or 1	20.00	15.00	2.50	2.40	1.60	.60
D or 2	25.00	15.00	2.50	2.40	1.60	.60
E or 3	30.00	20.00	3.00	3.00	2.00	.75
F or $3 \frac{1}{2}$	50.00	20.00	3.00	3.00	2.00	.75
G or 4	60.00	20.00	3.00	3.00	2.00	.75

Structural Cast Steel Screw Punches

Cast steel punches with machine steel screw. Screw punch is furnished with one punch and die and coupling nut.

Bar head screw furnished unless otherwise specified.

When ordering give size of screw punch and dimension of hole to be punched.



No.	Comp. Each	Extra Punches	Extra Dies	Coupling Nut Extra	Bar Hd. Screw Extra
10	\$35.00	\$1.75	\$1.50	\$1.75	\$14.00
12	40.00	2.00	1.85	2.00	16.00
14	54.00	2.25	2.00	3.50	20.00
16	60.00	2.25	2.00	3.50	25.00

No.	Will Punch Hole In.	Max. Metal Thickness In.	Max. Open. In.	Depth Throat In.	Wt. Lbs.
10	$\frac{3}{4}$	$\frac{3}{8}$	$3 \frac{1}{2}$	$2 \frac{1}{4}$	55
12	$\frac{3}{4}$	$\frac{1}{2}$	$4 \frac{1}{2}$	3	80
14	1	$\frac{1}{2}$	$4 \frac{1}{2}$	4	150
16	1	$\frac{1}{2}$	$6 \frac{1}{2}$	$4 \frac{1}{2}$	180

No. 1 Whitney Punches



This punch has great capacity, is of simple construction, and strongly built.

Punches and dies from $\frac{1}{8}$ to $\frac{3}{16}$ inch, by 64ths.

Insertable pipe handles.

Each punch is equipped with 1 punch and 1 die.

No.	Tool Complete Each	Extra Punches Each	Extra Dies Each	Length Inches	Capacity, In. Hole	Thick-ness Iron	Weight Pounds
1	\$19.00	\$.45	\$.45	34	$\frac{3}{8}$	$\frac{1}{4}$	23

No. 2 Whitney Punches



A hand punch. Punches and dies from $\frac{3}{32}$ to $\frac{1}{2}$ inch, by $\frac{1}{64}$ ths.

Used by boiler makers, fur-

nace manufacturers, cornice, tank, and stack builders, manu-

facturing plants, and in repair shops.

Parts of tool drop-forged throughout, with wearing parts

heat-treated. One punch and one die furnished.

Length.....	inches	23
No. 2, Complete.....	each	\$15.00
Extra Punches.....	each	.45
Extra Dies.....	each	.45
Capacity Hole.....	inches	$\frac{5}{16}$
Thickness Iron.....	inches	$\frac{1}{4}$
Weight.....	pounds	13

No. 20 Whitney Ball Bearing Punches



Made of alloy steel; heat treated throughout. Capacity, $\frac{1}{2}$ inch through $\frac{1}{2}$ -inch iron. Will also drive rivets. Depth of throat, 2 inches; height of throat, $1\frac{3}{8}$ inches.

Any size punch and die can be furnished from $\frac{3}{16}$ to $1\frac{1}{16}$ inch by $\frac{1}{32}$ nd.

Shipped complete with one punch and die of specified size.

Shipping weight, 20 pounds.

No. 20.....	each	\$50.00
Base for Bench.....	each	5.00
Riveting Punches and Dies.....	per set	2.50
Extra Punches or Dies.....	each	1.00

No. 24 Whitney Ball-Bearing Punches

Capacity, $\frac{1}{2}$ -Inch Hole in $\frac{3}{8}$ -Inch Iron



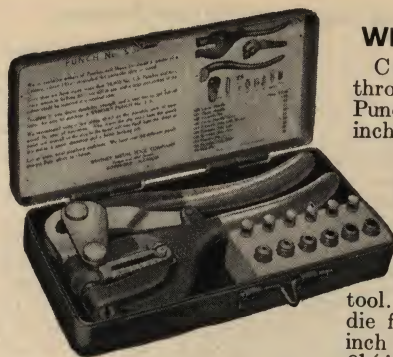
Punch body is made of special steel casting.

Tool is shipped with one punch and die. Stock sizes are $\frac{3}{16}$ to $1\frac{1}{16}$ inch by $\frac{1}{32}$ inch.

Depth of Throat.....	inch	$3\frac{1}{2}$
Will Punch in Center of.....	inch	7
Height of Throat.....	inch	4
Weight.....	pounds	45
Price, No. 24.....	each	\$60.00

No. 5 Jr. Whitney Punches

Capacity, $\frac{1}{4}$ inch through 16-gage metal. Punches in center of 4 inches.



With seven sets of punches and dies, $\frac{3}{32}$, $\frac{1}{8}$, $\frac{5}{32}$, $\frac{3}{16}$, $\frac{1}{32}$, $\frac{1}{4}$, and $\frac{9}{32}$ inches or any stock size specified. Six punches and dies in container; one in tool. Any size punch and die from $\frac{1}{16}$ to $\frac{3}{32}$ by $\frac{1}{64}$ inch supplied. Length, $8\frac{1}{2}$ inches; height of gap,

$\frac{1}{4}$ inch. Weight of punch, $2\frac{3}{4}$ pounds each.	
In Paper Carton.....	each \$9.20
In Metal Box, Parts Illustrated Inside Cover.....	each 9.60

Whitney Roller Bearing Punches



No. 7

Complete with three sets of punches and dies, $\frac{5}{32}$, $\frac{7}{32}$, $\frac{9}{32}$ or any other stock size specified. We can also furnish any size punch and die from $\frac{1}{8}$ to $\frac{1}{16}$ inch by $\frac{1}{64}$ inch.

Capacity.....	inches	$\frac{1}{4}$ Through $\frac{1}{8}$
No. 7, Complete.....	each	\$17.50
Height of Gap.....	inches	$\frac{1}{2}$
Punch in Center of.....	inches	$3\frac{1}{2}$
Length Over All.....	inches	18
Weight.....	pounds	$6\frac{1}{2}$

No. 7 1/2

With three punches and dies; unless specified $\frac{7}{32}$, $\frac{9}{32}$, $1\frac{1}{32}$ inch with each machine. Stock sizes are from $\frac{1}{8}$ to $\frac{1}{16}$ inch by $\frac{1}{64}$ inch.

Capacity.....	inches	$\frac{1}{4}$ Through $\frac{3}{16}$
No. 7 1/2, Complete.....	each	\$21.25
Height of Gap.....	inches	$\frac{3}{8}$
Punch in Center of.....	inches	4
Length Over All.....	inches	22
Depth of Throat.....	inches	2
Weight.....	pounds	$10\frac{1}{2}$

No. 8 Imperial

Stock sizes are from $\frac{1}{8}$ to $\frac{1}{2}$ inch by $\frac{1}{32}$ inch.

Capacity.....	inches	$\frac{1}{4}$ Through $\frac{1}{4}$
No. 8, Complete.....	each	\$25.00
Height of Gap.....	inches	$\frac{3}{8}$
Punch in Center of.....	inches	$4\frac{1}{4}$
Length Over All.....	inches	$25\frac{1}{2}$
Depth of Throat.....	inches	$2\frac{1}{8}$
Weight.....	pounds	16

No. 10 Whitney Ball Bearing Hand Punches

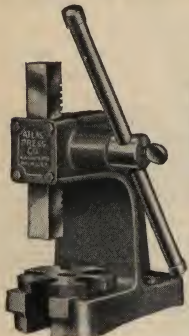


Equipped with one punch and die of specified size. Base for bench purposes can also be furnished. Frame made of drop-forged steel; other parts are of high grade steel.

This punch will drive rivets as well as punch holes. Capacity of tool, $\frac{3}{8}$ -inch hole through $\frac{1}{4}$ -inch steel. Depth of throat, $1\frac{5}{8}$ inches. Height of throat, $\frac{7}{8}$ inch. Length over all, 19 inches. Weight, $8\frac{1}{2}$ pounds.

Stock sizes of punches and dies, $\frac{1}{8}$ in. to $\frac{1}{2}$ in. by $\frac{1}{32}$ in.	
No. 10.....	each \$25.00
Extra Punches or Dies.....	each .60
Riveting Punches and Dies.....	per set 2.00

Atlas Simple Leverage Arbor Presses



No. 00

All presses are equipped with square rams.

Nos. 00, 0, 1, X and Y are simple leverage quick-acting presses used by manufacturers of watches, clocks, radios, speedometers and other delicate instruments for light production work.

Nos. X and Y have square planed table in place of standard table plate.

Nos. 1½, 3A, and 4M presses are operated with a ratchet device which permits using lever in most convenient position.

The 3A and 4M are larger machines for heavier classes of work. No. 4M is a floor type press equipped with an adjustable table.

All bench type presses may be bolted easily to the lathe bed ways.

No.	Less Pedestal Each	Pedestal Only Each	Leverage	Approx. Pressure Tons	Wt. Lb.	Wt. Ped. Lb.
00	\$14.00	.....	24-1	½	22	...
0	24.00	\$24.00	36-1	1	70	85
X	14.00	.....	24-1	½	22	...
Y	24.00	24.00	36-1	1	70	85
1	35.00	27.00	48-1	2	140	120
1½	39.00	27.00	48-1	2	150	120
3A	94.00	44.00	55-1	5	450	275
4M	184.00	.....	55-1	5	1030	...

DIMENSIONS, INCHES

No.	Diam. and Length Ram	Floor Space	Height	Diam. Work In.	Cap. Over Table In.	Largest Arbor In.
00	1 x1 x 7	Bench 4 x10	9	7	4¼	1
0	1 x1 x12	Ped. 10¼x18	14½	10	7¾	1½
X	1 x1 x 7	Bench 4 x10	9	7	4½	...
Y	1 x1 x12	Ped. 10¼x18	14½	10	8	...
1	1¼x1½x16½	Ped. 14 x22	20	14	11	1½
1½	1¼x1½x16½	Ped. 14 x22	20	14	11	1½
3A	2 x2 x22	Ped. 18 x28	30	20	16	4
4M	2 x2 x22	21 x29	62	21	25	4½



Atlas Compound Leverage Arbor Presses

Compound leverage device permits operator to apply great pressures with minimum effort.

Nos. 2, 2-B, 2½, and 3 are bench-type presses which may be furnished with pedestal mounting or bolted to the lathe bed ways.

No. 4 is a floor type press. Has adjustable table with rack and pinion to control elevation.

No.	Less Pedestal Each	Pedestal Only Each	Leverage	Approx. Pressure Tons	Wt. Lb.	Wt. Ped. Lb.
2	\$72.00	\$38.00	100-1	5	270	225
2B	30.00	38.00	100-1	5	290	225
2½	82.00	38.00	100-1	5	315	225
3	150.00	53.00	160-1	12	640	375
4	245.00	.....	160-1	12	1390	...

DIMENSIONS, INCHES

No.	Diam. and Length Ram	Floor Space	Height	Diam. Work In.	Cap. Over Table In.	Largest Arbor In.
2	1½x1½x19	Ped. 18x23½	25	15½	14	3½
2B	1½x1½x19	Ped. 15x24	25	15½	15	5½
2½	1½x1½x26½	Ped. 18x23½	35½	15½	21	3½
3	2 x2 x24	Ped. 21x30	36	20½	18	5
4	2 x2 x24	24x29	64	21	25	5

Sheldon Arbor Presses



No. 2, with Plain Lever



No. 3A, with Ratchet Lever

Made of semi-steel. Rams and pinions alloy steel, heat treated. Large stub tooth.

Nos. 1 and 10 for small work. No. 2 for medium sized work. No. 2A or Armature Press has large opening in base. No. 4 has simple and compound lever mechanism.

Specifications

No.	1	10	2	2A
Largest Diam. Will Take.....in.	7	9	11	11
Largest Diam. Mandrel.....in.	1½	1¼	1¾	.....
Height Over Plate.....in.	4¼	5¾	9¾	.....
Max. Height Will Take.....in.	4¾	6¼	10½	15
Height of Frame.....in.	9½	11½	18½	23
Size of Ram (Round).....in.	1	1¼	1½	1½
Movement of Ram.....in.	5	6½	12	17½
Leverage.....	25-1	30-1	35-1	35-1
Pressure.....tons	¾	1	2	2
Dimensions of Base.....in.	4x9¾	4x11½	6x17	7x17
Shipping Weight.....lb.	20	30	115	115
No.	3	3A	33	4
Largest Diam. Will Take.....in.	15	15	18	19½
Largest Diam. Mandrel.....in.	2½	2½	.....	3½
Height Over Plate.....in.	13½	13½	.....	18
Max. Height Will Take.....in.	14½	14½	18	19½
Height of Frame.....in.	26¼	26¼	31	33
Size of Ram (Round).....in.	1½	1½	1½	2½
Movement of Ram.....in.	16½	16½	18½	21
Leverage.....	48-1	72-1	48-1	**
Pressure.....tons	5	7½	5	10
Dimensions of Base.....in.	8x20	8x20	.....	11x24
Shipping Weight.....lb.	175	220	300	435

Prices

No.	With Plain Lever Each	No.	With Compound Lever Each
1	\$10.00	4	\$82.50
10	13.50	With 14-Inch Pilot Wheel	
2	22.00	2	\$26.00
2A	24.50	2A	28.50
3	33.00	3	37.00
33-10*	46.00	33-10*	50.00
33-12*	48.50	33-12*	52.50
33-14*	52.00	33-14*	56.00
33-16*	55.00	33-16*	59.00
With Ratchet Lever		With 24-Inch Pilot Wheel	
3A	\$44.00	3	\$42.00
33-10*	57.00	33-10*	55.00
33-12*	59.50	33-12*	57.50
33-14*	63.00	33-14*	61.00
33-16*	66.00	33-16*	64.00

*Size of platen.

When Press is to be Equipped with Sheldon Ram

Aligner, add..... \$5.00

Floor Stands

For Press Number.....	2	3	4
Each.....	\$18.00	25.00	36.00
Height.....inches	36	35	30
Dimensions of Top.....inches	6½x13½	8x16½	11x20
Dimensions of Base.....inches	19x19	18x22	21x26
Shipping Weight.....pounds	175	200	280

No. P-10 Atlas Portable General Purpose Presses



Press



Blocks

For use on all types of automotive press work—bearings, bushings, shafts and pins. Easily moved to job.

Welded steel structural frame; adjustable table.

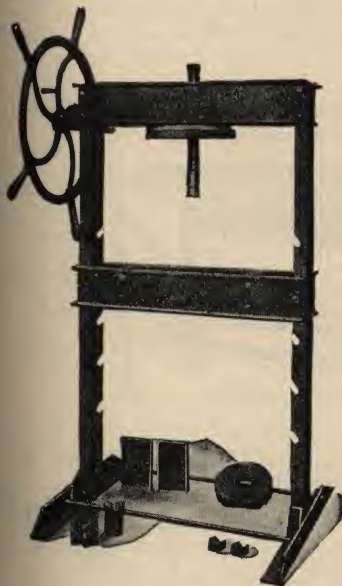
Special alloy steel screw; travel, 5 inches; diameter, 1 inch; and threads per inch, 8. Ram nose has ball thrust bearing.

Handles diameters up to 18 inches. Capacity over base, 16½ inches.

Furnished complete with two V-blocks, each 1¾x7x¾ inches.

No.	Each	Description	Wt., Lb.
P-10	\$20.00	Complete Press with V-Blocks.....	80
P10-13	1.45	Table Block for General Press Work, Gluing, Etc.; Size, 4x6x¾ Inches.....	6
P10-14	2.00	Two V-Blocks for Straightening and Arbor Work; Size, 1¾x7x¾ Inches....	6

Champion 30-ton Presses



This press has a leverage of 1500 to 1. 100 pounds exerted on the hand wheel develops 75 tons pressure on the screw, making it possible to press, straighten or pull all classes of work for garage and machine shop.

Full equipment comes with each machine.

The hand wheel is geared 3 to 1, with heavy enclosed bevel gears operating a 2-inch diameter, 4 pitch Acme screw.

The hand wheel, weighing 57 pounds, is used as a fly wheel to run the spindle up or down quickly.

The table can be raised or lowered by one man, by lowering or raising one side at a time in notch desired, without pulling bolts or pins out.

The Champion 30-ton Press is built of 5-inch channel steel uprights, table, 6-inch heavy section channel steel. Height to top of frame, 65 inches. Width between uprights, 32 inches. Up and down travel of spindle, 9 inches. Occupies floor space 36 by 39 inches. Net weight, 570 pounds.

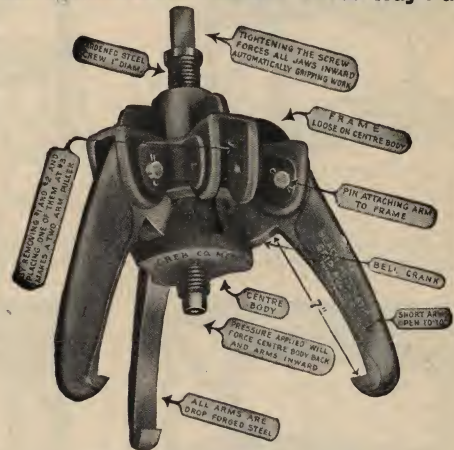
Price.....each \$90.00

Greb Automatic Grip Pullers

A portable, one man puller for pulling wheels, gears, motor pulleys, fly wheels, collars and sprockets, pinion gears, fiber or paper pulleys.

Made of carbon steel. Tensile strength, 80,000 pounds to a square inch.

Greb Combination Two and Three-Way Pullers



No.	Each	Capacity Tons	Diam. Screw In.	Lgth. Screw In.	No. Jaws	Leth. Jaws In.	Range In.	Weight Pounds
XX-5	\$38.95	50	1½	22	3	13	2 to 25	55
1-X	22.75	30	1¼	14	{ 3 7 12 }	{ 7 12 }	1 to 18	39
1	18.95	20	1	14	{ 3 7 12 }	{ 7 12 }	1 to 18	37
10	12.95	20	1	14	{ 3 7 12 }	{ 7 12 }	0 to 8	18
3	11.95	10	¾	10	{ 3 7 12 }	{ 7 12 }	0 to 12	5
2	7.59	5	⅝	7½	{ 3 7 12 }	{ 7 12 }	0 to 7	26

Greb Automatic Grip Two-Way Pullers



No.	Each	Capacity Tons	Diam. Screw In.	Lgth. Screw In.	No. Jaws	Leth. Jaws In.	Range In.	Weight Pounds
1-A	\$10.00	20	1	14	{ 2 6 12 }	{ 6 12 }	1 to 18	27
3-C	6.00	10	¾	10	{ 2 6 12 }	{ 6 12 }	0 to 12	13
2-B	2.95	5	⅝	7½	{ 2 6 12 }	{ 6 12 }	0 to 7	3½
10-A	8.00	20	1	14	{ 2 6 12 }	{ 6 12 }	0 to 8	20

Bearing and Gear Plates

Bearing and attachments, 2, 3 and 4 inches furnished with puller. Useful in going back of pinions or flat gears that fit close to frame collar or housing. A tapered and split tool fastening behind close fitting gear and gripping puller behind attachment studs.



Size.....inches	2	3	4
Each.....	\$1.25	2.00	3.00
Weight.....pounds	1¼	3	7

Extension Jaws



For lengthening jaws where a long reach is needed. For use with No. 1-X, 1-A and 3-C pullers. Wt., 12 Lb.. Set of 2 \$2.50

Extension Links

For use with No. XX-5 puller. Length, 12 inches. Shipping weight, 15 pounds.....set of 3 \$5.00

Pollard All Steel Work Benches and Tables



No. 1—Pollard Steel Top Bench with Back Plate, End Plates and Lower Shelf



No. 2—Pollard Steel Top Bench with Back Plate, End Plates and Angle Tie Rods



No. 3—Pollard Steel Top Bench with Back Plate and End Plates



No. 4—Pollard Steel Top Table with Lower Shelf



No. 5—Pollard Steel Top Table with Angle Tie Rods



No. 6—Pollard Steel Table

These tables and benches are constructed with Pollard standard types of heavy bench legs. The top is flanged front and back to attain the desired stiffness and leave no sharp edges with which the workman's hands may come in contact. The back plates and end plates are used to prevent piece parts from sliding off the bench. The shelf is flanged for strength and appearance and can be used for a foot rest or the storage of parts. It will also act as a stabilizer in case that the bench is not fastened to the floor.

Two or more of the standard benches can be joined together to make any length of bench desired. No. 5 illustrates a flat top bench or table having two legs joined together with angles or tie rods, while No. 6 shows the same bench without tie rods. Tops of benches are perfectly flat and smooth.

Steel bench drawers are attached to the steel bench by means of a special clamping attachment which is attached to the inturned flanges of the steel top. The drawer can be slid along the flanges and located wherever desired, and then by tightening the bolts is held firmly in place.

Prices of benches do not include steel bench drawers.

Benches are shipped knocked down, but are easily assembled with the bolts and lock washers furnished.

Finished in olive green lacquer enamel.

Furnished with legs 30-32 $\frac{1}{4}$ and 35 inches in height; widths of bench: 24, 29, 32 $\frac{1}{2}$, 36, and 46 inches.

Length Bench.....feet	3	4 $\frac{1}{2}$	5	6	8	9	10	12
No. of Legs.....	2	2	2	2	3	3	3	*3

*One-piece top.

Pollard Steelwood Work Benches and Tables



No. 1—Pollard Steelwood Top Bench with Back Plate, End Plates, and Lower Shelf

Steelwood is a combination top. The first 12 inches of working surface is laminated hard maple, the balance of the top is $\frac{1}{8}$ inch thick steel.

Wood tops will not warp as they are made of strips of hard maple, edge grained, kiln dried, glued, and steel bolted through laminations, the actual thickness being 2 $\frac{1}{2}$ inches.

Can be furnished in the same six styles shown above. Shipped knocked down.

Furnished in the following lengths: 3-foot on 2 legs; 4 $\frac{1}{2}$ -foot on 2 legs; 5-foot on 2 legs; 6-foot on 2 legs; 8-foot on 3 legs; 9-foot on 3 legs; 12-foot on 3 legs with one-piece top.

Available in the following heights of legs: 25, 29, 30, 31 $\frac{1}{2}$, 32 $\frac{1}{4}$, and 33 $\frac{1}{2}$ inches; also in the following widths of benches: 24, 29, 32 $\frac{1}{2}$, and 36 inches. Special sizes in both leg heights and bench widths upon application.

Pollard Laminated Maple Top Benches and Tables



No. 5—Pollard Laminated Maple Top Table with Angle Tie Rods

Tops are made of laminated hard maple, edge grained, glued, and steel bolted through laminations; 3 inches thick. The tops are mounted on heavy duty bench legs, fastened by special flat head bolts.

Can be furnished in the same six styles as shown above. Shipped knocked down.

Furnished in the following lengths: 3-foot on 2 legs; 4 $\frac{1}{2}$ -foot on 2 legs; 5-foot on 2 legs; 6-foot on 2 legs; 8-foot on 3 legs; 9-foot on 3 legs; 10-foot on 3 legs; 12-foot on 3 legs with one-piece top.

Available in the following heights of legs: 25, 29, 30, 31 $\frac{1}{2}$, 32 $\frac{1}{4}$, and 33 $\frac{1}{2}$ inches; also in the following widths of benches: 24, 29, 32 $\frac{1}{2}$, and 36 inches. Special sizes in both leg heights and bench widths upon application.

Pollard Bench Legs Types L and M—Light Type

For light work benches.

Top is made of $2\frac{1}{2} \times \frac{1}{2} \times \frac{1}{8}$ -inch, cross members $1\frac{1}{4} \times 1\frac{1}{4} \times \frac{1}{8}$ -inch angle all welded by electric arc. Top pierced for planking, back for stringer, brace for shelving, feet to fasten same to floor.

Olive green finish.

Type	Each	Width Inches	Height Inches	Weight Pounds
1-L	\$2.50	23	30	13
2-L	2.50	23	32 $\frac{1}{4}$	13
3-L	2.75	23	35	13 $\frac{1}{2}$
1-M	2.75	28	30	14
2-M	2.75	28	32 $\frac{1}{4}$	14
3-M	2.85	28	35	14 $\frac{1}{2}$

Backboard brackets, 35 cents each.

Pollard Bench Legs Types A, B, D and G

Heavy type legs are constructed to meet the demand of the shop or factory that has heavy work to do, such as pounding, twisting, bending, etc. Light type legs are for light manufacturing and light assembly work.

Top is made of two angles $2\frac{1}{2} \times \frac{1}{2} \times \frac{1}{8}$ inch, welded together forming a tee section, having a width of 4 inches. Tee section is set into a slot cut in uprights and welded in.

Types A and D have an overhang of $3\frac{1}{2}$ inches; Type B, 3 inches.

Uprights made of $2\frac{1}{2} \times \frac{1}{2} \times \frac{1}{8}$ -inch angle, cross and brace $1\frac{1}{2} \times 1\frac{1}{2} \times \frac{1}{8}$ inches. Top pierced for planking, using $\frac{3}{8}$ -inch bolts, back and brace for stringer, feet for fastening to floor and brace for shelving. Bracket illustrated used for supporting backboard.

Sizes shown in table below are standard. Other heights are 25, 29, $31\frac{1}{4}$, $33\frac{1}{2}$ and 36 inches. Other sizes are special and carry an extra of 10 per cent, figured on the nearest size.

Olive green finish.

Prices given do not include the bracket.

Type	Each	Std. Width In.	Std. Ht. In.	Wt., Lbs.	Type	Each	Std. Width In.	Std. Ht. In.	Wt., Lbs.
1-A	\$4.00	28	30	19 $\frac{1}{2}$	1-D	\$4.10	31 $\frac{1}{2}$	30	20 $\frac{1}{2}$
2-A	4.00	28	32 $\frac{1}{4}$	20	2-D	4.10	31 $\frac{1}{2}$	32 $\frac{1}{4}$	21
3-A	4.25	28	35	20 $\frac{1}{2}$	3-D	4.35	31 $\frac{1}{2}$	35	21 $\frac{1}{2}$
1-B	4.00	23	30	17	1-G	4.50	36	30	22
2-B	4.00	23	32 $\frac{1}{4}$	18	2-G	4.50	36	32 $\frac{1}{4}$	22 $\frac{1}{2}$
3-B	4.25	23	35	18 $\frac{1}{2}$	3-G	4.75	36	35	23

Backboard brackets 60 cents each.

Type E Pollard Double Assembly Benches

Heavy Type

Top is made of two angles $2\frac{1}{2} \times \frac{1}{2} \times \frac{1}{8}$ inch welded together, forming a tee section, having a width of 4 inches. This tee section is set into a slot cut in the uprights and welded in, thus the top sets on and into the uprights.

Stringer in center of angle brace permits workmen to get knees under bench, when working on both sides.

Olive green finish.

Type	Each	Std. Width In.	Std. Ht. In.	Wt. Lbs.
1-E	\$4.10	31 $\frac{1}{2}$	30	20 $\frac{1}{2}$
2-E	4.10	31 $\frac{1}{2}$	32 $\frac{1}{4}$	21
3-E	4.35	31 $\frac{1}{2}$	35	21 $\frac{1}{2}$

Pollard Steel Stools

A single piece of angle $\frac{3}{4} \times \frac{3}{4} \times \frac{1}{8}$ in., notched and formed makes two very rigid legs. Seats of hardwood, dowel pinned and glued, with rounded edges. Saddle seats 14 in. deep and 16 in. wide. Natural wood finish. Back is formed of spring steel fastened to curved plywood back, 6x12 in. Swivel stools revolve on a long steel bearing. Adjustable stools have 1-in. spacings with a total adjustment of 6 in. Olive green lacquer finish.



Stationary Stools

Series N-1 has a 13 $\frac{1}{2}$ -in. round seat; N-2, 14 $\frac{1}{2}$ -in. round seat and N-3, 14x16 in. saddle seat.

Series N-1B, N-2B, and N-3B have same seats as N-1, N-2 and N-3, with the addition of the back.

Stools, 28 to 36 in. in height have double stretchers.



Ht. In.	N-1 Each	N-2 Each	N-3 Each	N-1B Each	N-2B Each	N-3B Each
18	\$4.00	\$4.65	\$5.50	\$6.00	\$6.65	\$7.50
20	4.15	4.80	5.65	6.15	6.80	7.65
22	4.30	4.95	5.80	6.30	6.95	7.80
24	4.45	5.10	5.95	6.45	7.10	7.95
26	4.60	5.25	6.10	6.60	7.25	8.10
28	5.50	6.15	7.00	7.50	8.15	9.00
30	5.65	6.30	7.15	7.65	8.30	9.15
32	5.85	6.45	7.30	7.85	8.45	9.30
34	6.00	6.60	7.45	8.00	8.60	9.45
36	6.15	6.75	7.60	8.15	8.75	9.60



Adjustable Stools

Series A-1 has a 13 $\frac{1}{2}$ -in. round seat; A-2, 14 $\frac{1}{2}$ -in. round seat and A-3, 14x16-in. saddle seat.

Series AS-1, AS-2 and AS-3 is same as above but swivel.

Series A-1B, A-2B, and A-3B, AS-1B, AS-2B and AS-3B are same as above but with back rests.



Ht. In.	A-1 Each	A-2 Each	A-3 Each	A-1B Each	A-2B Each	A-3B Each
18-24	\$4.85	\$5.55	\$6.35	\$6.85	\$7.55	\$8.35
22-28	5.15	5.85	6.55	7.15	7.85	8.55
26-32	5.45	6.15	6.95	7.45	8.15	8.95
30-36	5.75	6.45	7.25	7.75	8.45	9.25

Adjustable Swivel Stools

Ht. In.	AS-1 Each	AS-2 Each	AS-3 Each	AS-1B Each	AS-2B Each	AS-3B Each
18-24	\$6.85	\$7.55	\$8.35	\$8.85	\$9.55	\$10.35
22-28	7.15	7.85	8.65	9.15	9.85	10.65
26-32	7.45	8.15	8.95	9.45	10.15	10.95
30-36	7.75	8.45	9.25	9.75	10.45	11.25

Swivel Stools

NS-1 has a 13 $\frac{1}{2}$ -in. seat, NS-2, 14 $\frac{1}{2}$ -in. seat and NS-3 a saddle seat, 14x16 in. NS-1B, NS-2B and NS-3B same as NS-1, NS-2, and NS-3, but with back rest.



Ht. In.	NS-1 Each	NS-2 Each	NS-3 Each	NS-1B Each	NS-2B Each	NS-3B Each
18	\$6.00	\$6.65	\$7.50	\$8.00	\$8.65	\$9.50
20	6.15	6.80	7.65	8.15	8.80	9.65
22	6.30	6.95	7.85	8.30	8.95	9.85
24	6.45	7.10	7.95	8.45	9.10	9.95
26	6.60	7.25	8.10	8.60	9.25	10.10
28	7.50	8.15	9.00	9.50	10.15	11.00
30	7.65	8.30	9.15	9.65	10.30	11.15
32	7.85	8.45	9.30	9.85	10.45	11.30
34	8.00	8.60	9.45	10.00	10.60	11.45
36	8.15	8.75	9.60	10.15	10.75	11.60

Type 700 A-S-E Steel Stack-Units



Especially suited to the storage of many small parts, screws, and bolts, and to assembly work. Sloping bin front, with stacking rim. Stacking is easy and sure. May be stacked as high as desired. Vibration will not unstack them.

Will stack interchangeably with A-S-E Stacking Boxes of the same size. A handy label holder is provided. Drop or rigid handle at closed end.

Dimensions..in.	10x16x6	10x18x6	12x18x6	12x18x8	12x20x10
Type 700..each	\$1.60	1.75	1.86	2.04	2.33
Gage.....	18	16	16	16	16

Type 800 A-S-E Steel Stacking Boxes



Designed to stack easily and remain stacked solidly.

Rim is formed from the steel itself by a series of breaks, each reinforcing rim and sides.

A heavy steel band is welded within the rim on each corner extending 2½ inches in each direction.

Furnished with No. 20-346 rigid or No. 15-070 drop handles at each end; no finish. Black baked enamel finish, 10 cents extra.

Can be built to any size or specification desired.

Size....inches	10x16x6	10x18x6	12x18x6	12x18x8	12x20x10
Type 800..each	\$1.39	1.55	1.66	1.80	2.09
Gage.....	18	16	16	16	16

No. 900 A-S-E Steel Shop Boxes



Furnished with S-70 rigid or S1-9 drop handles at each end.

Can be furnished without finish or in black baked enamel finish for a nominal extra charge, depending on quantity and size.

Extra charge for labelholders.

Dimensions..in.	10x16x6	10x18x6	12x18x6	12x18x8	12x20x10
No. 900....ea.	\$1.39	1.55	1.66	1.80	2.09
Gage Steel..no.	18	16	16	16	16

Can be built to any size or specification desired upon request.

A-S-E Steel Taper Pans



Made from 1 piece of steel with the triangular corners lapped over and electrically welded. Top edges of sides are hemmed over to strengthen the pan and the ends are bent to form a 1½-inch handle the full width. A ⅞-inch hole is punched in the center of each handle.

Can be supplied to order in any size required.

No.....	461	462	463	464
Each.....	\$.91	1.02	.97	1.06
Dimensions...in.	10x21x5½	10x21x5½	11x22x6	11x22x6
Gauge.....	18	16	18	16

No. 34RC Kennedy Roller Tool Cabinets



Two strong drawers with lower one divided for sockets and end wrenches. Drawers move easily on double drawer slides that stop them only after they are extended far enough to allow an unobstructed view of contents.

Lower pan can be used for tools or parts, when working under the car. A top till holds heavy tools. Whole cabinet may be locked. Reinforced body and angle iron legs. Ball Bearing casters. Red or brown baked enamel finish. Size overall, 24½x18¼x34 in. Size till, 24x18x3¼ in. Size drawers, 22x18x3 in. Size of pan, 23½x17¼x2½ in. Shipped knocked down. Shipping weight, 84 pounds.

No. 34RC.....each \$19.50

No. C Kennedy All Steel Parts Cabinets



For offices, stores, repair shops, garages, the home workshop, etc.

Finished in green ripple baked on enamel on the outside, with a smooth green finish on the drawers.

There are six drawers, each measuring 5x8 inches. Two drawers have ten compartments each, two have six, and two have three.

Drawers are equipped with combination index card holders and drawer pulls and are removable so that they may be used on the display counter to hold small items.

Length 8 inches, width 6 inches, height 9 inches. Shipping weight, 6 pounds; 6 to crate, 45 pounds.

No. C.....each \$3.00

No. 6D Kennedy All Steel Parts Cabinets



For use in the home workshop, office, store, factory, repair shop and garage for the storing of nuts, screws, bolts, refrigeration parts, electrical parts, radio parts, and automotive parts. Also serves as a display cabinet.

There are 6 drawers in all: One with 15 compartments, each compartment 2¾x2½ inches; one with 12 compartments, each compartment 2¾x3¼ inches; 2 with 6 compartments, each compartment 4¼x4½ inches; 2 with 4 compartments, 3 compartments 2¾x9⅞ inches, and one compartment of 3x8¼ inches. Each drawer is 1½ inches deep inside. Cardholders on each drawer are equipped with sturdy celluloid windows.

Shell is finished in dark green ripple baked enamel; drawers finished in smooth green enamel.

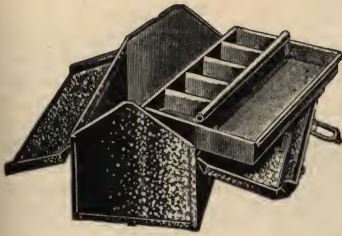
Length of cabinet, 13¼ inches; width, 10½ inches; height, 11⅞ inches.

In individual cartons; shipping weight, 20 pounds.

Packed 6 to a crate; shipping weight, 140 pounds.

No. 6D.....each \$6.00

Kennedy All Steel Mechanics' Kits



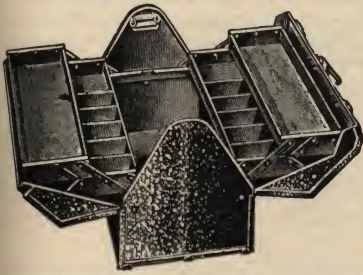
Tray has handy divisions for small parts. Kit has 3 skid rails welded to bottom; outside finish of seal brown ripple baked enamel and dark green smooth interior.

Equipped with leather handle, side catches and multiple change lock.

Each kit packed in an individual carton; 6 in a crate.

No.....	116	118	120	122
Each.....	\$5.50	5.75	6.00	6.25
Dimensions.....inches	16x9x11	18x10x13	20x11x13	22x11x13
Ship. Wt. per Crate lbs.	80	100	120	125

Kennedy All Steel General Mechanics' Kits



The 4 trays swing out of kit smoothly and easily when lids are opened. No. 1021 has compartments in top trays for socket wrenches. Leather handle, side catches and multiple change lock. Three skid rails welded to bottom. Finished in seal brown ripple baked enamel outside and dark green smooth baked enamel inside.

Each kit packed in individual carton; 6 to a crate.

No.....	1017	1018	1021
Each.....	\$7.50	8.00	8.50
Dimensions.....in.	17x8x10	18x10x12½	21x10x12½
Ship. Wt. 6 to Crate lbs.	92	125	150

No. 20G Kennedy Garage Tool Kits



Designed for shop use. Equipped with tote tray. Tray may be carried to job with just the tools needed. Handle of tray is wide enough that heavy loads may be carried comfortably.

Equipped with multiple change lock, side catches, and skid rail supports on bottom of box. Handle is of leather, reinforced with steel

core. Finished in Kennedy brown baked ripple enamel outside, plain green interior. Dimensions, 20x10x13 inches. Packed in individual cartons. Ship. wt., 6 to a crate, 125 lbs.

No. 20G.....each \$7.25

No. K-20 Kennedy Tool Kits



An all-purpose tool kit with divided carrying tray. Tray is 19½x7½x1¾ inches, and has three separate compartments, one, 13½x7½ inches; two 2¾x7½ inches.

Kit is 20x8½x9½ inches high.

Piano type hinge extends length of

lid. Kit is locked by hasp and staple, supplemented by side catches.

Made of 20 gage steel, dark green ripple baked enamel finish. Packed in individual carton. Weight, 15 pounds.

No. K-20.....each \$4.50

No. 19-T Kennedy Tote Trays



Handy for garage mechanic or factory maintenance man. It is large enough to carry all the tools needed on the job, and it is useful for work that requires tools to be carried away from the bench.

The tray is made of steel strong enough to withstand the hardest usage. A compartment for small parts or socket wrenches extends the full length of the tray. The handle fits the hand, and the tray may be carried comfortably even when heavily loaded.

19x9¾x3 inches, ship. wt. 85 lbs. Packed 12 to a crate. No. 19-T.....each \$1.50

Kennedy Bighorn Steel Tool Kits



Tray is automatically lifted out with the opening of the lid and it rests firmly when extended.

Marproof green baked ripple enamel finish, fine white striping on lid; nickel-plated fittings.

Double seamed ends, corner irons and full length hinge.

Packed one in a carton, 6 to a crate

No.	Each	Dimensions Inches	Net Wt. Lbs. Oz.	Wt., Lbs. per Crate
CS16	\$3.00	16x7x7	5 10	50
CS19	3.20	19x7x7	7 1	55

Kennedy Electricians' All-Steel Kits

Divided tray extends only part of the length of kit, having room in the end for a blow torch. Three skid rails are welded to bottom. Equipped with multiple change lock, side catches, and finished with seal brown ripple baked enamel outside and dark green smooth enamel interior.

Packed in individual cartons, 6 in a crate.



No.	Each	Dimen- sions Inches	Wt. per Crate Lbs.
319	\$5.50	19 x8x9	85
321	5.75	21 x8x9	95
324	6.00	24½x8x9	105

No. 716 Kennedy Combination Tool Cases



• Top tray fitted with folding handle for use as tote tray. Lower tray is divided. Space under tray is large enough for complete assortment of tools.

Three skid rails welded to bottom for protection and strength. Finish is seal brown ripple baked enamel outside and smooth green baked enamel inside. Size 16x8x9 in. Ship. wt. 6 to crate 95 lb.

No. 716 each \$6.50

No. 27 Kennedy Tool Chests



A heavy duty tool chest for the garage mechanic. The till is divided to accommodate long tools, any standard 1/4-inch drill, and a 14-inch tote tray for emergency and under the hood jobs. The top drawer, for precision tools, is lined with felt and has adjustable divisions. The middle drawer has a division for socket wrenches, and the

lower drawer is reinforced for heavy tools. The spill-proof drawers move easily on strong compound drawer slides. The bottom is reinforced with skid rails, and a lock bar fits across the drawers.

Finished in either brown or dark red ripple enamel.

Till in top, length, 26 3/4 inches; width, 12 1/4 inches; depth, 4 5/8 inches. Top drawer, length, 24 3/8 inches; width, 12 inches; depth, 1 1/2 inches. Middle drawer, length, 24 3/8 inches; width, 12 inches; depth, 2 inches. Lowest drawer, length, 24 3/8 inches; width, 12 inches; depth, 3 1/4 inches.

Dimensions overall: Length, 27 inches; width, 12 1/2 inches; height, 15 1/4 inches.

No. 27, Ship. Wt., 68 Lbs. each \$20.00

No. 28D Kennedy Roller Dollies

The roller dolly provides a stand for No. 27. The legs are enclosed to provide space for a tool box or other equipment to be locked up when not in use. Finished in either brown or dark red ripple enamel.

No. 28D, Ship. Wt., 45 Lbs. each \$10.75

Nye Steel Tool Chests



Heavy steel skids make the chest slide easily over rough surfaces and prevent wear. The lid is held down at the front corners with 1/2-inch bolts which screw into malleable iron corners having a 3/4-inch thread surface.

Made of 1/16-inch steel sheet entirely reinforced with 2 1/2-inch oak cleats.

Equipped with 6 heavy handles, chained lock and keys. Chest is enameled in olive green with cleats in natural color.

Furnished with one sliding drawer.

No	1	2	3	4
Each	\$26.00	35.50	39.00	45.50
Depth.....inches	11	14	16	19
Width.....inches	12	15	17	20
Length.....inches	24	30	36	42
Shipping weight.....pounds	51	84	127	159

Kennedy Machinists' Cases



Neither heat nor moisture will affect case. Drawers slide easily on super-compound drawer slides that stop only after they are extended out of the case giving a clear view of the contents. Slides are very strong and will not break down. Drawers are completely lined with felt.

Case is strongly reinforced with boxed ends. Front panel, which slides under drawers

when box is open, fits against drawers locking them with 60-change lid lock. Nickeled fittings make attractive combination with seal brown ripple baked enamel finish. An adjustable partition is placed in each drawer except bottom one. Additional partitions may be purchased.

Packed 1 to a crate.

No.....	516	520
Each.....	\$16.50	\$17.50
Outside Dimensions:		
Length.....inches	16	20
Width.....inches	8 1/2	8 1/2
Height.....inches	13	13
Inside Dimensions:		
Till in Top.....inches	3 3/4 x 8 3/8 x 16	3 3/4 x 8 3/8 x 20
4 Drawers.....inches	1 x 7 1/2 x 6 9/16	1 x 7 1/2 x 8 5/8
1 Drawer.....inches	1 1/2 x 7 1/2 x 14 3/16	1 1/2 x 7 1/2 x 18 1/4
1 Drawer.....inches	2 x 7 1/2 x 6 9/16	2 x 7 1/2 x 8 5/8
1 Drawer.....inches	2 1/2 x 7 1/2 x 14 3/16	2 1/2 x 7 1/2 x 18 1/4
Net Weight.....pounds	24	27 3/4
Shipping Weight.....pounds	31	37

No. 381 Lufkin Tool Chests



A portable tool chest for toolmakers and machinists, made of quarter sawed oak, handsomely finished. Fitted with heavy nickel plated trimmings and strong leather covered handle. Top compartment, lid and drawer bottoms covered with green felt. Edges of chest are lock cornered and drawer corners are held securely by a positive locking device. Drawers have heavy metal bottoms. Drawer fronts of quartered oak. Mirror and spring clip in lid. Front lid, when open, slides under bottom drawer; locks automatically when chest is closed. Heavy chest lock with 2 keys securely locks compartments.

Top compartment with recessed lid 18 1/16 x 8 5/16 x 3 1/4 inches; length short drawers 8 5/16 inches, long drawers 18 1/16 inches; depth drawers 7 3/16 inches; height of first drawer 1 1/16, second 2 1/16, third 1 1/16, fourth 1 1/16, fifth 1 1/16, sixth 1 1/16, seventh 2 1/16 inches.

No. 381..... each \$20.00

Starrett Narrow Steel Rules

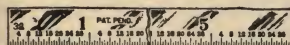


Spring-tempered. About $\frac{3}{16}$ inch wide, $\frac{1}{32}$ inch thick. Machine divided, graduated

one edge each side whole length. No. 330 has No. 10 graduation (32nds and 64ths). No. 331 has No. 11 graduation (64ths and 100ths). Packed 6 in box.

Length.....inches 4 6 9 12
Nos. 330 and 331.....each \$.75 .90 1.35 1.65

No. 324 Starrett Flexible Steel Rules



Machine divided, distinctive graduations.

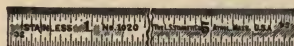
Graduated 64ths on one side and 32nds on the other.

Graduated on opposite sides and opposite edges and from one end.

Length, 6 inches. Packed 6 in a box.

No. 324.....each \$.90

No. 1020 Starrett Flexible Stainless Steel Rules

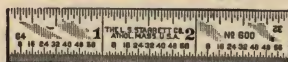


A quick reading rule made in 6-inch length only.

Machine divided, distinctive graduations in 16ths, 32nds, and 64ths, and on both sides of rule, from one end.

No. 1020, Packed 6 in a Box.....each \$1.35

Starrett Spring Tempered Rules Quick Reading



Has No. 4 graduation; and is $\frac{3}{8}$ inch thick.

No. 600 graduated in 8ths and 16ths on one side, and 32nds and 64ths on the other. Made in 1 to 24-inch lengths inclusive.

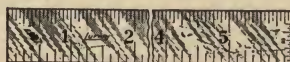
No. 603 graduated in 32nds and 64ths on both sides and in 32nds on both ends of one side. Made in 2 to 12-inch lengths inclusive.

Length No. 600 Inches Each	No. 603 Each	Width Inches	Length Inches	No. 600 Each	No. 603 Each	Width Inches
1	\$.30	...	9	\$1.35	\$1.35	$\frac{7}{8}$
2	.45	.45	12	1.65	1.65	1
3	.60	.60	18	2.60	...	$1\frac{1}{8}$
4	.75	.75	24	3.25	...	$1\frac{1}{4}$
6	.90	.90	..	...	...	...

Lufkin Spring Tempered Rules



Showing Readable Graduation



Showing End Graduation

Rules 2 to 24 inches long have end graduation. Readable graduation can be supplied up to 48-inch length rules. Nos. 2204R and 2207R with readable graduations; No. 2204 without readable graduations.

Nos. 2204R and 2204 have No. 4 graduation.

No. 2207R has No. 7 graduation.

Approximate thickness, $\frac{3}{8}$ inch.

Rules 12 inches and under packed 6 in a box; others packed 1 in a package.

Lgth. In.	Each	Approx. Width In.	Wt., Lbs. per Doz.	Lgth. In.	Each	Approx. Width In.	Wt., Lbs. per Doz.
1	\$.30	$\frac{1}{2}$	$\frac{1}{8}$	12	\$1.65	1	2
2	.45	$\frac{1}{2}$	$\frac{1}{8}$	18	2.60	$1\frac{1}{4}$	$4\frac{1}{2}$
3	.60	$\frac{1}{2}$	$\frac{1}{4}$	24	3.25	$1\frac{1}{4}$	6
4	.75	$\frac{5}{8}$	$\frac{1}{2}$	36	7.00	$1\frac{1}{4}$	9
6	.90	$\frac{3}{4}$	$\frac{3}{4}$	48	10.00	$1\frac{1}{4}$	12
9	1.35	$\frac{7}{8}$	$1\frac{1}{2}$	..	...	...	..

No. 2110R Lufkin Flexible Steel Rules Machine Divided



Made of spring tempered steel; about $\frac{1}{2}$ inch wide. Made in the 6-inch length only.

Graduated in 16ths, 32nds and 64ths and on both sides of the rule. The 32nds and 64ths graduations are on the lower edge of each side and start from the same end. The 16th graduation is on the upper edge of the 32nds side. Both 32nds and 64ths have readable graduations.

Packed 6 in a box. Weight per dozen, $\frac{1}{4}$ pounds.

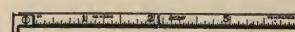
No. 2110R.....each \$.90

No. S2110R, Stainless Steel.....each 1.35

No. S2110R is the same as the No. 2110R, except that it is made of stainless steel.

Metal bound leather cases with pocket clip for 6-inch rules can be furnished at 15 cents each.

No. H2310 Lufkin Spring Tempered Narrow Hook Rules



Has No. 10 graduation.

Interchangeable with blades of Lufkin Nos. 510 and 511.

depth gauge. Can be used through holes $\frac{3}{8}$ inch in diameter.

Lgth., In.	Price, Each	Lgth., In.	Price, Each
4	\$1.00	9	\$1.65
6	1.20	12	2.00

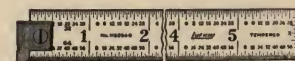
No. H224 Lufkin Spring Tempered Hook Rules



Rule is machine divided. Has reversible hook which can be changed to any of the 4 graduations and read from zero without removing any parts. Loosen the thumbscrew until slot in the hook is clear from the scale, turn the hook to the graduation desired, tighten the thumbscrew and hook rule is ready for use. No. 4 graduation, 8ths, 16ths, 32nds, 64ths. Readable graduations on both 32nds and 64ths edges with one end of both sides graduated 32nds.

Length.....inches	6	12
Approximate Width Rule.....inches	$\frac{3}{4}$	1
Weight, per Dozen.....pounds	1	$2\frac{1}{4}$
Price, No. H224.....each	\$1.50	2.40

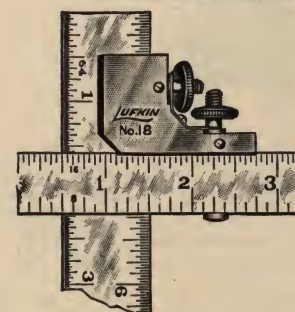
No. H2204R Lufkin Spring Tempered Hook Rules



No. 4 graduation; 6 to 24-in. lgths. have end graduation. Approx. thickness,

$\frac{3}{8}$ -in. Rules 12-in. and under, 3 in box; others, 1 in pkg.					
Length.....in.	6	9	12	18	24
No. H2204R.....each	\$1.25	1.75	2.15	3.10	3.75
Approx. Width....in.	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{4}$

No. 18 Lufkin Right Angle Rule Clamps For Use with Combination Square Blades



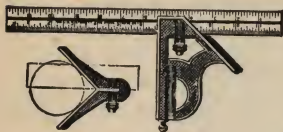
Designed to firmly hold at right angles, a combination square blade 12, 18, or 24 inches long and any regular steel rule not over one inch wide.

Used in this combination, together with the heads of a combination square, many valuable applications and uses are given.

A clip holds the two clamping nuts in place at all times, eliminating interference of the two bolts and nuts and

making operation of tool more simple. Packed 4 in a box.
No. 18A, Size, $1\frac{1}{2} \times 1\frac{3}{8}$ inches.....each \$1.00
No. 18B, Size $2\frac{5}{8} \times 2\frac{1}{16}$each 1.25

No. 11 Starrett Combination Squares



With the adjustable blade this forms a convenient and useful tool for mechanics' use. It is convenient for a depth gauge, to square in a mortise, or a miter, while with the auxiliary center

head it forms a centering square, both inside and outside. The blades are hardened and graduated in No. 4 and No. 7 graduations. Packed 1 in a box. Blades of No. 4 graduation will be sent unless otherwise ordered.

Stainless steel blades are also available.

Size.....inches	4	6	9	12	18	24
With Center Head, ea.	\$2.10	\$2.40	\$3.00	\$3.60	\$4.50	\$5.40
Without Center Head.....each	1.50	1.80	2.40	3.00	3.90	4.80

Parts for No. 11 Starrett Combination Squares

The 6, 9, 12, 18 and 24-inch stocks are fitted with levels. The 4-inch stock has no level. The 18 and 24-inch have the same stock and center head as the 12-inch.

Blades are graduated in No. 4 and No. 7 graduations.

Those of No. 4 graduations being most used, will be sent unless otherwise ordered.

Size Inches	PRICE, EACH		
	Blade	Stock	Center Head
4	\$.80	\$.90	\$.75
6	1.20	.90	.75
9	1.50	1.20	.75
12	1.90	1.50	.75
18	3.00	1.50	.75
24	3.90	1.50	.75

Price, Scribes.....each \$.15

No. 9 Starrett Combination Sets



A combination set made up of rule on which slide the square, center, and protractor heads. Hardened blade.

The illustration shows No. 11 combination square with center head and No. 12 7-inch bevel protractor, all on the No. 11 square blade.

Furnished with No. 4 and No. 7 graduations. No. 4 graduation sent unless otherwise ordered.

Packed 1 in a box.

Size.....inches	9	12	18	24
No. 9.....per set	\$6.00	6.60	7.50	8.40

No. 434 Starrett Combination Sets

With Hardened Blade



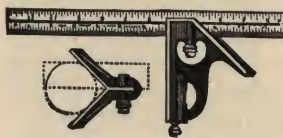
This set consists of No. 33 combination square with hardened drop forged stock and center head and No. 490 reversible protractor head.

Furnished with No. 4 and No. 7 graduation. Sent with blades of No. 4 graduation unless otherwise specified.

Packed 1 in a box.

Size.....inches	9	12	18	24
Price, No. 434, Set Complete.....each	\$9.50	10.40	11.50	12.40

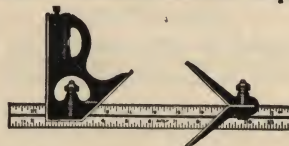
No. 33 Starrett Drop-Forged Steel Combination Squares



Stock, center head and blades are hardened. Blades are graduated in Nos. 4 or 7. All squares are furnished with center heads and No. 4 graduations unless otherwise ordered.

Size Inches	EACH		Size Inches	EACH	
	With Center Head	Without Center Head		With Center Head	Without Center Head
4	\$3.80	\$2.30	12	\$6.20	\$4.30
6	4.60	3.10	18	7.30	5.40
9	5.30	3.40	24	8.20	6.30

Lufkin Combination Squares



Tempered blade with square and center heads. All square heads except 4-inch with level. No. 4 graduation: 8-16-32-64ths. No. 7 can be furnished: 16-32-64-100ths.

Packed one in a box.

No. 25C—Cast Heads

Length.....inches	4	6	9	12
Each.....	\$2.10	2.40	3.00	3.60

No. 35C—Hardened Drop Forge Heads

Length.....inches	4	6	9	12	18	24
Each.....	\$3.80	4.60	5.30	6.20	7.30	8.20

Lufkin Drop Forged Combination Squares

Tempered Blade



Because of its size and weight this combination square will appeal particularly to tool and die makers, pattern makers, etc.

Blades have No. 4 graduation, 8ths, 16ths, 32nds and 64ths inch. A distinctive feature is readable graduations, 64ths numbered every

8th division, which greatly facilitates reading.

No. 135 blade with square head. No. 135C blade with square and center heads.

Packed 1 in a box.

	No. 135	No. 135C
Length.....inches	6	6
Weight, Each.....ounces	4	6
Price.....each	\$3.50	\$4.40

Lufkin Combination Sets



Tempered blade with square, center and protractor heads. All square and protractor heads with level. No. 4 graduation: 8-16-32-64ths. No. 7 can be furnished: 16-32-64-100ths.

Packed one in a box.

No. 525—Cast Heads

Length.....inches	9	12	18	24
Each.....	\$6.00	6.60	7.50	8.40

No. 625—Cast Heads

With Reversible Protractor Head

Length.....inches	9	12	18	24
Each.....	\$7.20	7.80	8.70	9.60

No. 490 Starrett Bevel Protractors



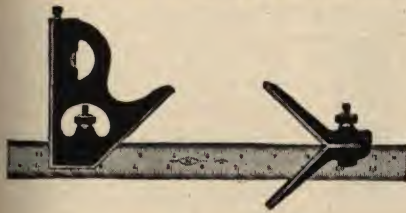
Has head extending both sides of blade, thus increasing usefulness of tool, as same angles may be transferred from either side of frame without resetting. Turret graduated to read both ways from 0° to 180°.

Head of protractor is 7 inches long and is supplied with an accurate level attached to one side. Blades are hardened and graduated with heavy figures reading both ways. Furnish with Nos. 4 or 7 graduation. Sent with 12-inch blade of No. 4 graduation unless otherwise ordered. Hardened blade and reversible head. Head made with smooth finish.

The protractor head for 9-inch blade is not interchangeable with the other sizes.

Length.....inches	9	12	18	24
No. 490.....each	\$5.70	6.10	7.20	8.10
Protractor Head Only, with Level.....each	\$4.20			

Brown & Sharpe Combination Squares



Tempered blade with Nos. 4 or 7 graduation.

Nos. 400 and 412 have drop-forged heads; No. 402, cast iron head. Packed 1 in a box.

Nos. 400 and 412—With Hardened Heads

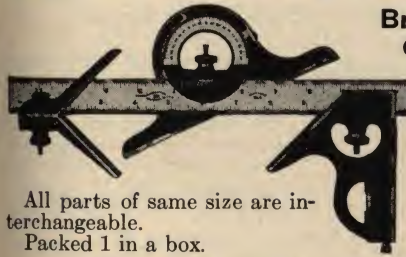
Size.....inches	6	9	12	18	24
No. 400.....each	\$4.60	\$5.30	\$6.20	\$7.30	\$8.20
*No. 412.....each				9.60	11.10

*Heavy pattern. With No. 4 graduation only.

No. 402—With Heads Not Hardened

Size.....inches	6	9	12	18	24
No. 402.....each	\$2.40	3.00	3.60	4.50	5.40

Brown & Sharpe Combination Sets



Tempered blade with Nos. 4 or 7 graduation.

Nos. 425 and 427 have drop-forged heads; No. 426, cast iron head.

All parts of same size are interchangeable.
Packed 1 in a box.

Nos. 425 and 427—With Hardened Heads

Size.....inches	9	12	18	24
No. 425.....each	\$8.30	\$9.20	\$10.30	\$11.20
*No. 427.....each			13.20	14.40

*Heavy pattern. With No. 4 graduation only.

No. 426—With Heads Not Hardened

Size.....inches	9	12	18	24
No. 426.....each	\$6.00	6.60	7.50	8.40

Lufkin Combination Sets



Tempered blade with square, center and protractor heads. Square and center heads are drop forged and hardened. All square and protractor heads with level. No. 4 graduation: 8-16-32-64ths. No. 7 can be furnished: 16-32-64-100ths.

Packed one in a box.

No. 535

Length.....in.	9	12	18	24
Each.....	\$8.30	9.20	10.30	11.20

No. 635 With Reversible Protractor Head

Length.....in.	9	12	18	24
Each.....	\$9.50	10.40	11.50	12.40

No. 6 Lufkin Bevel Protractors Reversible Head



Tempered blade. Regularly furnished with No. 4 graduation; No. 7 can be supplied if so ordered.

Length Inches	Each	Length Inches	Each
9	\$5.70	18	\$7.20
12	6.10	24	8.10

No. 12 Starrett Bevel Protractors



An adjustable rule, held firmly at any point by thumb nut, passes through a revolving turret which is graduated from 0° to 180°, both right and left, and can be accurately adjusted to show any angle. A small level is attached to head forming an adjustable level to show any degree.

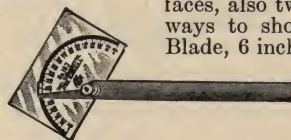
Blades are hardened and furnished with No. 4 or No. 7 graduation. Will be sent with 12-inch blade of No. 4 graduation unless otherwise ordered. Head 7 inches long.

Length.....in.	*9	12	18	24
No. 12.....each	\$4.50	4.90	6.00	6.90
Protractor Head Only, with Level.....each	\$3.00			

*Protractor head is not interchangeable with other sizes.

No. 183 Starrett Steel Protractors

For setting bevels, transferring angles, or for use as a T-square, etc. With rectangular head, giving four working faces, also two rows of figures reading both ways to show the complementary degrees.



Blade, 6 inches long, and by means of patent lockjoint is set firmly by turn of nut.

No. 183, Packed one in a Box.....each \$3.00

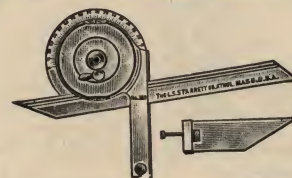
No. 493 Starrett Protractor and Depth Gauges



This tool will be appreciated by machinists, draftsmen and shop foremen. Any angle in one-half circle (180°) may be obtained and the back is finished to permit its being laid flat upon paper or work. Blade being adjustable permits its being set at any length within its capacity, permitting its use as a depth gauge. Scale, clamped by a conveniently knurled nut, is graduated to 32nds and 64ths.

Price, No. 493.....each \$3.00

No. 360 Starrett Universal Bevel Protractors



A graduated disc with a fixed blade and adjustable stock. Disc is graduated from 0° to 90° each way, and rotates the entire circle.

Blade is 7 or 12 inches by 1/2 inch; length stock, 4 inches. No. 360B furnished unless otherwise specified.

	Without Case			With Case		
No.....	360A	360C	360E	360B	360D	360F
Each.....	\$13.50	14.75	15.50	15.75	17.75	18.50
Length...inches	7	12	7, 12	7	12	7, 12

Add \$2.00 for No. 360G acute angle attachment.

Starrett Center Gages



For use in grinding and setting screw cutting tools.

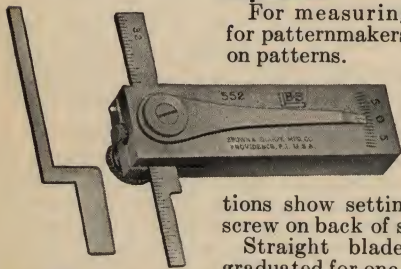
Graduated in 14ths, 20ths, 24ths, and 32nds of an inch, except Nos. 397 and 398, which are graduated in millimeters and $\frac{1}{2}$ mm. These graduations are useful in finding the number of threads to the inch.

Packed 6 in a box.

	Not Tempered		Spring Tempered	
	No.	Each	No.	Each
U. S. Standard, 60°.....	390	\$.40	391	\$.50
Whitworth Standard, 55°.....	395	.40	396	.50
Metric, 60°.....	397	.40	398	.50
Heavy Center, $\frac{1}{8}$ -Inch Thick, U. S. Standard, 60°, Not Graduated....	...	...	399	3.50

No. 552 Brown & Sharpe Die Makers' Squares

For measuring die clearances and for patternmakers to determine drafts on patterns.



Blade is locked in position by small clamp screw. Can be set for any angle up to 8° either side of zero. Graduations show setting in degrees. Clamp screw on back of square locks setting.

Straight blade, $2\frac{1}{4}$ inches long, graduated for one inch on each end, in

32nds of an inch on one side and in 64ths on the other. Blade is $\frac{1}{32}$ inch wide except for $\frac{3}{8}$ inch on one end where it is narrowed to $\frac{1}{64}$ inch. Offset end, $\frac{1}{8}$ inch wide, beveled on both sides of each edge. Remainder of the blade, $\frac{1}{32}$ -inch wide, fits into the body of the square.

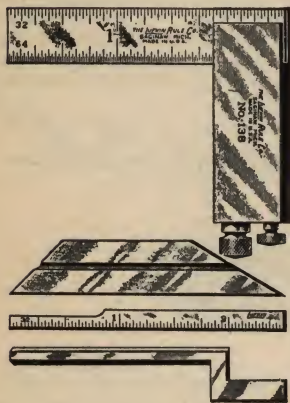
Body of the square, approximately $2\frac{1}{4} \times \frac{5}{8} \times \frac{3}{8}$ inches, is hardened and ground.

Square sent complete unless otherwise ordered.

Packed 1 in a box.

No. 552, With Both Straight and Offset Blades.....	each	\$5.50
No. 552, With Straight Blade Only.....	each	4.50
No. 552, With Offset Blade Only.....	each	5.00

No. 138 Lufkin Die Makers' Squares



Designed so that the blades can be adjusted at an angle with the stock, which is particularly valuable in determining the clearance in dies.

Angle adjustment is made by means of the small thumb screw.

This square is furnished in various combinations.

Packed one in a box.

Weight each, 3 ounces.

No. 138A, with Standard Blade.....	each	\$4.00
No. 138B, with Standard and Bevel Blades.....	each	4.30
No. 138N, with Standard and Narrow Blades.....	each	4.50
No. 138C, with Standard, Narrow and Bevel Blades.....	each	4.80
No. 138CX, with Standard, Narrow, Bevel and Offset Blades.....	each	5.80

No. 21 Starrett Thin Steel Try Squares



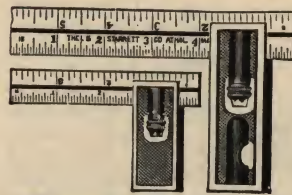
The 2x1 and 3x2-inch sizes are graduated 16ths and 64ths on one side and 32nds and 64ths on the other.

All other sizes are graduated 16ths and 32nds on both sides.

Packed 1 in a package.

Size.....inches	2x1	3x2	4x3	6x4	8x6
No. 21.....each	\$2.10	2.70	3.60	5.10	6.60
Thickness.....inches	$\frac{1}{20}$	$\frac{1}{20}$	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$

No. 13 Starrett Double Squares



For machinists', tool makers' and pattern makers' use. The sliding blade, shortened or extended full length, makes it more valuable than a full set of common squares; while with the extra bevel blade both the hexagon and octagon angles can be made.

The seat against which the blade is clamped being convex, the accuracy of the square is not affected should corners of the blade get injured.

Furnished in No. 4 graduation. A level is contained in the 6, 9, and 12-inch sizes. Packed 1 in a box.

Size.....inches	4	6	*4	*6	9	12
No. 13.....each	\$1.85	2.85	2.35	3.45	3.60	4.75

*With both blades, always sent unless otherwise specified. Bevel blades for 4 and 6-inch only.

No. 22 Starrett Drill Point Gages



Designed for assisting in grinding drill points accurately. The method followed for sharpening the cutting edges is to do one at a time. For satisfactory results, each lip must not only be the same

length, but must also have the same angle in relation to the axis of the drill.

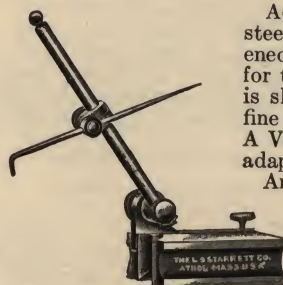
May be used as a drill point gage, hook rule, plain rule, depth gage, try square, and slide caliper.

Blades for both sizes graduated in 8ths, 16ths, 32nds, and 64ths.

Packed 1 in a box.

No. 22A, Complete Gage with 12-Inch Blade.....	each	\$4.90
No. 22B, Sliding Graduated Head for No. 22A.....	each	3.00
No. 22C, Complete Gage with 6-Inch Hook Rule.....	each	2.50
No. 22D, Sliding Graduated Head for No. 22C.....	each	1.25

No. 56 Starrett Toolmakers' Surface Gages

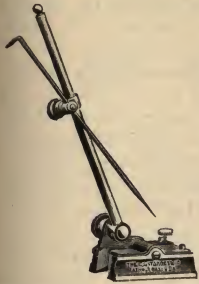


Adapted for light work. Base is steel, nicely finished and case-hardened, with depressions in the sides for the thumb and finger. Top side is slotted, and rocking bracket for fine adjustments is pivoted in same. A V-shaped groove in end and base adapts it for use on cylindrical work.

An auxiliary guide made of steel and case-hardened is furnished when desired to clamp to the base for either a circular or a straight edge.

Price, No. 56A, with 4-inch spindle and Auxiliary Guide.....	each	\$4.10
Price, No. 56B, without Auxiliary Guide.....	each	3.50
Price, 7-inch Spindle.....	each	.30

No. 57 Starrett Universal Surface Gauges



Heavy base, grooved through the bottom and end, adapts gauge for use on or against circular work as well as flat surfaces. Spindle may be set upright or at any angle, or turned so as to work under the base and be sensitively adjusted to any position.

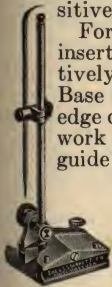
In the rear end of the base are two gauge pins which may be pushed down to bear against the edge of a surface plate or in the slot of a planer bed for linear work.

No.....	57A	57B	57C	57D
Each.....	\$3.50	4.00	4.85	5.50
Base.....inches	3	3	3 3/4	3 3/4
Spindles.....inches	9	9 & 12	12	12 & 18

No. 257 Starrett Universal Surface Gages

Case Hardened Steel Base

This gage has a heavy base, grooved through bottom and end, adapting it for use on or against circular work as well as flat surfaces. Spindle may be set upright or at any angle, or turned so as to work under base, and can be sensitively adjusted to any position.



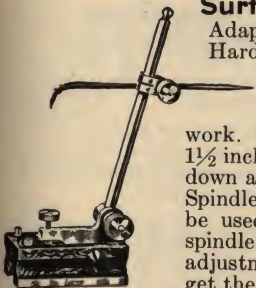
For small work spindle may be removed and scriber inserted in hole provided for it, where it can be sensitively adjusted and used to advantage on bench work. Base has 4 pins which may be pushed to bear against edge of surface plate, or in slot of planer bed for linear work also adapting gage to be used as a locomotive guide liner. Packed one in a box.

No.....	257A	257B	257C	257D
Each.....	\$4.75	5.25	5.85	6.50
Lgth. Base in.	3	3	3 3/4	3 3/4

Ht. Spindle and Base in. 9 9 & *12 12 12 & *18
*Height of spindle only.

No. 521 Lufkin Toolmakers' Universal Surface Gages

Adapted for light work.



Hardened base is mottled blue with measuring faces ground and polished. Bottom and end are grooved out for cylindrical work. Width of base, 1 1/2 inches; height, 1 1/2 inches. Two gage pins can be pushed down and used as guides on linear work. Spindle passes through rotating head; can be used upright, at any angle. After spindle is clamped in position desired, adjustment screw at one end is used to get the exact setting. One in a box.

No.....	521A	521B	521C
Each.....	\$4.10	4.40	4.15
Base.....inches	2 1/8	2 1/8	2 1/8
Spindle.....inches	4	4 & 7	7
Weight.....ounces	12	14	13

Lufkin Universal Surface Gages

The base is well proportioned, the bottom and end being grooved out for cylindrical work. Has 4 gage pins used as guides on linear work. Spindle is made of rigid hollow steel tubing. It can be used upright, at any angle or such that the scriber can be used below the base.



After spindle is clamped in the approximate position desired, the fine adjustment nut at one end is used to get the exact setting.

The hardened base is finished in mottled blue with all measuring faces ground and polished. Packed 1 in box.

No.....	520A	520B	520C
Each.....	\$4.75	\$5.25	\$5.00
18" Spindle.....each	.90	.90	.90
Size Base.....inches	3 1/4	3 1/4	3 1/4
Spindle.....inches	9	9 & 12	12
Weight.....pounds	2 3/4	3	2 3/4

No. 452B Starrett Cylinder Gages



Used by mechanics in motor service, re-grind and re-bore shops to determine tapered, out-of-round or scored cylinders.

Graduated dial shows plus or minus, one turn being .100. Mounted on block which moves at right angles to sled. Has non-breakable crystal.

Hardened ground steel sled has 2 contact points which travel over dial reading in .001.

Locking mechanism; combination rigid or toggle handle.

Capacity, 2 1/2 to 6 inches

Nickel-plated finish.

No. 452B.....each \$17.50

No. 196 Starrett Universal Dial Test Indicators



Slight pressure upon contact point produces a movement of hand on dial. Circumference of dial divided into 100 equal spaces, each representing a movement of 1/1000 of an inch.

No. 196A, With All Attach. except No. 196L.....each \$13.50

No. 196B, with 3 Contact Points.....each 9.00

No. 196F, (Hole Attach.) ea. 1.80

No. 196G, Clamp 1 5/16" Capacity, Flat or Round.....each .90

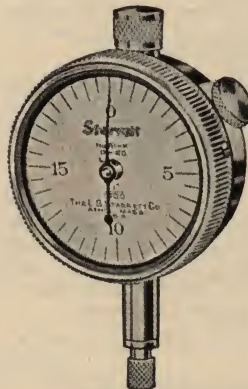
No. 196H, Tool Post Holder 3/8 x 3/4 x 6", Upright Spindle.....each .90

No. 196K, Sleeve Comp., 5/16" Hole for 9" Spindle.....each .90

No. 196L, Sleeve Comp., 3/8" Hole for 12" Spindle.....each .90

Extra Contact Points.....each .15

Series 81 Starrett Dial Indicators With Stem Cap Side Clamp



Back is a solid die casting with clamping lug. Lug is made on or off center. Sets in recess in case and held by 4 screws, making it possible to adjust at right angles to spindle. Black crackle finish.

Case is a die casting concentrically machined with stem cast integral and chromium plated.

Dial is of zinc, enameled. Has black and white figures.

Tempered steel handle with blued finish.

Genuine sapphire jewels in special mountings for ready replacement; set to provide the thrust of staff shoulders against the jewel.

Crystal is made of thick, non-breakable clear Pyralin. With lug on center and .275 stem and 1/4-inch hole in lug unless otherwise ordered. With top lift instead of stem cap at no additional cost.

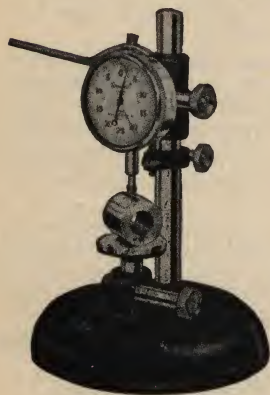
Diameter, 1 1/16 inches.

Furnished with jewel bearings unless otherwise ordered.

Packed 1 in a box.

No.	With Plain Bearings Each	With Jewel Bearings Each	Reading	Graduated Inches	Range of Inches	Revolutions of Hand
81-B	\$10.00	\$12.50	0-25-0	.001	.300	6
81-C	10.00	12.50	0-50-0	.001	.300	3
81-E	10.00	12.50	0-50	.001	.300	6
81-F	10.00	12.50	0-100	.001	.300	3
81-J	10.00	12.50	0-10-0	.001	.060	3
81-K	10.00	12.50	0-20	.001	.060	3
81-T1	27.50	30.00	0-5-0	.0001	.020	2
81-T2	27.50	30.00	0-10	.0001	.020	2

No. 654 Starrett Inspectors' Dial Bench Gauges



For measuring rubber, textiles, paper, metal parts, leather, veneer, mica, celluloid, cardboard, fabrics, etc.

The dial reads from 0-25-0. Other styles of dial gauges can be furnished upon request.

Has both lever and top control. The lever is at the left but can be furnished to use at the right if desired.

The dial can be adjusted relative to 0; the range $\frac{3}{4}$ inch.

Can be furnished with bezel clamp.

The $1\frac{1}{2}$ -inch diameter table is adjustable; also the dial gauge head and with the lateral and fine adjustment of the

latter, the gauge readily adapts itself to the job.

Range, 0 to 3 inches. Base diameter, $5\frac{1}{2}$ inches. Height, 8 inches.

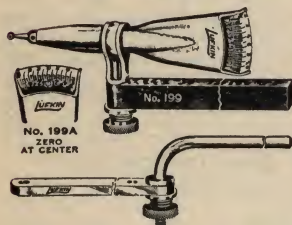
Approximate weight, 6 pounds.

Packed in a substantial wood case.

No. 654, Graduated to .001 Inch.....each \$35.00

No. 654M, Graduated to .01 mm.....each 35.00

No. 199 Lufkin Universal Indicators



The indicator which is of one unit, makes a complete revolution on its own center and also on the clamping bolt. This makes practically a universal joint. The hardened contact point can be set in any position in a half circle.

Due to the two reading faces, one on the flat side and the other on the end, this indica-

tor is unusually well adapted for jig boring, milling machine and drill press work.

A standard bar for general use and a special attachment is furnished with each indicator. The special attachment is used in a drill chuck or surface gage and its flat bar only is used with the Vernier height gage.

Packed 1 in a box.

No. 199, Zero Reading at End.....each \$5.00

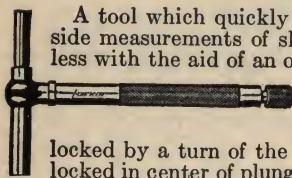
No. 199A, Zero Reading at Center.....each 5.00

Plush Lined Case for Above.....each .75

Furnished without case unless otherwise ordered.

Special diameter contact points; prices on request.

No. 79 Lufkin Telescoping Gages



A tool which quickly and accurately obtains the inside measurements of slots or holes to thousandths or less with the aid of an outside micrometer.

Tool consists of a handle and two plungers, one telescoping into the other which can be

locked by a turn of the knurled screw. Handle can be locked in center of plungers. Ends of plungers are hardened and ground to a radius that clears in the smallest

hole it will enter.

Packed 1 in a box.

No.	79AA	79A	79B	79C	79D	79E
Range..in.	$\frac{5}{16}$ - $\frac{1}{2}$	$\frac{1}{2}$ - $\frac{3}{4}$	$\frac{3}{4}$ - $1\frac{1}{4}$	$1\frac{1}{4}$ - $2\frac{1}{8}$	$2\frac{1}{8}$ - $3\frac{1}{2}$	$3\frac{1}{2}$ -6
Each....	\$1.80	1.80	2.10	2.40	3.00	3.60

No. 79L Set, One Each of Nos. 79AA, 79A, 79B, 79C, 79D, 79E in Leatherette Folder (Range: $\frac{5}{16}$ to 6 In.)...ea. \$16.20

No. 79M Set, One Each of Nos. 79AA, 79A, 79B and 79C in Leatherette Folder (Range: $\frac{5}{16}$ to $2\frac{1}{8}$ In.)....ea. 9.10

No. 237 Starrett Depth Gauges



The head of the No. 237 gauge is steel nicely finished and casehardened, 2 inches wide across the base, $\frac{1}{8}$ inch thick.

The blade which is conveniently held in the groove of the head by a knurled lock nut, is a 6-inch narrow spring-tempered rule which can be used separately from the gauge.

Blades graduated in 32nds and 64ths of an inch will be sent unless otherwise ordered but can also be supplied graduated in 64ths and 100ths.

The No. 237M is the same as the No. 237 except that the blade is 15 centimeters long, graduated on one side in millimeters and on the other in $\frac{1}{2}$ millimeters.

No. 237.....each \$1.50

No. 237M.....each 1.50

No. 510 Lufkin Depth Gauges



A handy depth gauge for tool makers, die makers, machinists and others.

The head is made of steel, case-hardened, $2\frac{1}{2}$ inches wide across the base, $\frac{1}{8}$ -inch thick, and is designed to fit the hand. The head being notched on one side allows the graduations to be easily read.

The blade is fitted securely into a slot on one side of the head, and is held in place by means of knurled nut and tension spring.

Fitted with a 6-inch narrow $\frac{3}{16}$ -inch spring tempered blade, graduated 32nds and 64ths.

Price, No. 510.....each \$1.50

No. H511 Lufkin Combination Depth Gages and Hook Rules



Fitted with narrow ($\frac{3}{16}$ inch) spring tempered blade marked one side 32nds, other side 64ths inch.

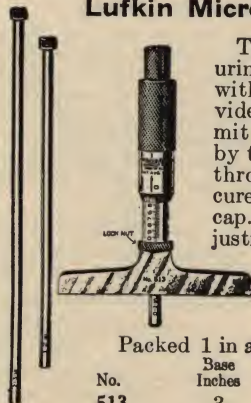
A convenient tool for certain kinds of calipering work. Serves as a depth gage, the hook being readily detached by giving eccentric stud a half turn.

A 6-inch depth gage with degree lines on head. One side of head is marked both right and left, with 30, 45 and 60-degree lines. Has scale or blade equipped with hook; the blade is a standard narrow pattern hook rule.

Packed 1 in a box; weight each, 2 oz.

No. H511.....each \$2.75

Lufkin Micrometer Depth Gages



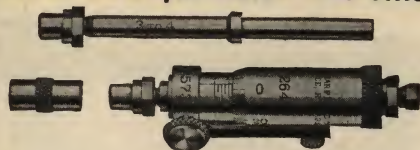
This gage is designed for use in measuring the depth of holes, slots, etc., with micrometer accuracy. Gage is provided with 3 measuring rods which permit measurements from zero to 3 inches by thousandths. The rods are inserted through a hole in the screw and are securely fastened by means of a knurled cap. Each rod is equipped with an adjusting nut to maintain their individual lengths.

Each gage is equipped with a patent lock nut which permits the reading to be maintained.

Packed 1 in a hinged wooden box with clasp.

No.	Base Inches	Range Inches	Wt., Oz.	Price Each
513	3	0 to 3	12	\$10.50
515	5	0 to 3	18	13.50

Brown & Sharpe Inside Micrometers



Has holder with a $\frac{1}{2}$ -inch micrometer screw. Measuring rods graduated by 1000ths of an inch. Has clamp screw. Measuring ends of rods are hardened, and may be adjusted to compensate for wear by loosening the lock nut and turning the screw with the hardened head one way or the other.

Packed 1 in a box.

No.	264	265
Without Case.....each	\$10.00	\$14.00
With Case.....each	11.75	16.50
Number of Rods.....	6	10
Range.....inches	2-8	2-12

Lufkin Inside Micrometers



Extension tubes or rods are of steel tubing making the tool rigid and durable.

Nos. 680A and 680B have $\frac{1}{2}$ -inch movement of screw; Nos. 681C, 681D and 681K have 1-inch movement of screw. No. 6801D has both

the $\frac{1}{2}$ and 1-inch movement heads.

For measuring by thousandths of an inch.

Each set is packed in a finished wooden box, as illustrated.

No.	Each	Range Inches	No. of Rods	Wt., Oz. Each
680A	\$12.00	$1\frac{1}{2}$ to 8	5	8 $\frac{1}{2}$
680B	15.00	$1\frac{1}{2}$ to 12	8	12
681C	18.00	4 to 24	7	27
681D	20.00	4 to 32	8	39
681K	24.00	4 to 40	10	48
6801D	30.00	$1\frac{1}{2}$ to 32	10	56

Lufkin 1-Inch Micrometer Calipers



With Full Finished Cut-Away Frame
Rapid Reading
Range, 0 to 1 Inch

Packed 1 in box. Wt., 7 oz.

For Measuring by Thousandths of an Inch

No.	Description	Each
1611	Plain, without Lock Nut or Ratchet Stop..	\$8.50
1621	With Lock Nut, without Ratchet Stop....	9.50
1641	With Lock Nut and Ratchet Stop.....	10.00

For Measuring by Ten-Thousandths of an Inch

1611V	Plain, without Lock Nut or Ratchet Stop.	\$10.25
1621V	With Lock Nut, without Ratchet Stop....	11.25
1641V	With Lock Nut and Ratchet Stop.....	11.75

Lufkin Stainless Steel Micrometers



For measuring by thousandths of an inch; for rapid reading.

Stainless steel thimble, sleeve, and hub. Enameled frame.

Rusting and staining of the reading parts is prevented with stainless steel.

Can be furnished up to 12 inches.

Range, 0 to 1 Inch

No. S-1911, Plain.....each	\$7.25
No. S-1921, with Lock Nut.....each	8.25
Ratchet Stop for Any of the Above Micrometers.....each	.50

Range, 1 to 2 Inches

No. S-1912, Plain.....each	\$8.00
No. S-1922, with Lock Nut.....each	9.00
Ratchet Stop for Any of the Above Micrometers.....each	.50

Lufkin 2-Inch Micrometer Calipers



With Full Finished Cut-Away Frame and 1-Inch Test Gage

Rapid Reading

Packed 1 in a box; weight each, 10 ounces.

For Measuring by Thousandths of an Inch

No.	Description	Each
1612	Plain, without Lock Nut or Ratchet Stop..	\$9.50
1622	With Lock Nut, without Ratchet Stop.....	10.50
1642	With Lock Nut and Ratchet Stop.....	11.00

For Measuring by Ten-Thousandths of an Inch

1612V	Plain, without Lock Nut or Ratchet Stop..	\$11.25
1622V	With Lock Nut, without Ratchet Stop....	12.25
1642V	With Lock Nut and Ratchet Stop.....	12.75

No. 8 Brown & Sharpe Micrometer Calipers



Range 0 to 1 inch by thousandths of an inch.

Furnished with a clamp ring, which clamps spindle and preserves the setting; also furnished with case at \$1.25 extra.

No. 8, without Ratchet Stop.....each	\$9.50
No. 8RS, with Ratchet Stop.....each	10.00

Brown & Sharpe Micrometer Calipers

Range from 0 to 1 Inch

With Clamp Ring



No. 13RS, with Ratchet Stop

Combines the utility of the C type frame with the advantages of frame with narrow anvil end for measuring deep in slots. Scientifically designed frame is proportioned for strength and rigidity.

Nos. 12 and 12RS

Measure by 1,000ths of an inch.

No. 12.....each	\$9.50
No. 12RS, With Ratchet Stop.....each	10.00

Nos. 12B and 12BRS

Measure by 1,000ths of an inch.

Stainless steel frame, barrel, and thimble, a protection against rusting and staining.

No. 12B.....each	\$11.50
No. 12BRS, With Ratchet Stop.....each	12.00

Nos. 13 and 13RS

Measure by 10,000ths as well as 1,000ths of an inch.

No. 13.....each	\$11.25
No. 13RS, With Ratchet Stop.....each	11.75

Nos. 13B and 13BRS

Measure by 10,000ths as well as 1,000ths of an inch.

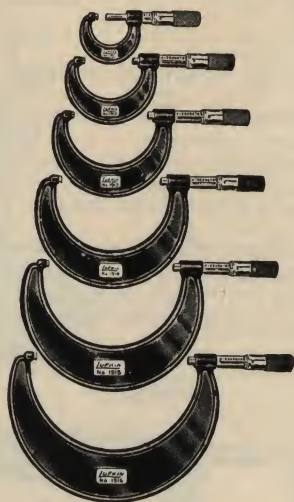
Stainless steel frame, barrel, and thimble, a protection against rusting and staining.

No. 13B.....each	\$13.25
No. 13BRS, With Ratchet Stop.....each	13.75

All calipers can be furnished with case at \$1.25 extra.

Lufkin Micrometer Calipers**Rapid Reading**

For Measuring by Thousandths of an Inch



Especially designed for production work. These calipers have sturdy ribbed frames to withstand the hard usage.

Micrometers are sent without test gage unless otherwise ordered.

Frame is finished in green enamel.

Packed one in a box.

Range, 0 to 1 Inch

No.	Description	Wt. Oz.	Each
1911	Plain, without Locknut or Ratchet Stop.	7	\$6.25
1921	With Locknut, without Ratchet Stop....	7	7.25
1941	With Locknut and Ratchet Stop.....	7	7.75

Range, 1 to 2 Inches

1912	Plain, without Locknut or Ratchet Stop.	9	\$7.00
1922	With Locknut, without Ratchet Stop....	9	8.00
1942	With Locknut and Ratchet Stop.....	9	8.50
Extra	for 1-Inch Test Gage.....	..	1.00

Range, 2 to 3 Inches

1913	Plain, without Locknut or Ratchet Stop.	12	\$7.75
1923	With Locknut, without Ratchet Stop....	12	8.75
1943	With Locknut and Ratchet Stop.....	12	9.25
Extra	for 2-Inch Test Gage.....	..	1.25

Range, 3 to 4 Inches

1914	Plain, without Locknut or Ratchet Stop.	19	\$8.50
1924	With Locknut, without Ratchet Stop....	19	9.50
1944	With Locknut and Ratchet Stop.....	19	10.00
Extra	for 3-Inch Test Gage.....	..	1.50

Range 4 to 5 Inches

1915	Plain, without Locknut or Ratchet Stop.	22	\$9.25
1925	With Locknut, without Ratchet Stop....	22	10.25
1945	With Locknut and Ratchet Stop.....	22	10.75
Extra	for 4-Inch Test Gage.....	..	1.75

Range, 5 to 6 Inches

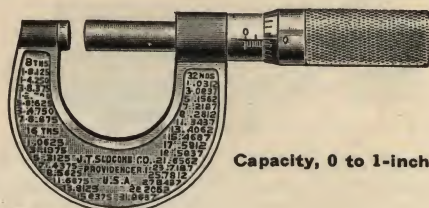
1916	Plain, without Locknut or Ratchet Stop.	27	\$10.00
1926	With Locknut, without Ratchet Stop....	27	11.00
1946	With Locknut and Ratchet Stop.....	27	11.50
Extra	for 5-Inch Test Gage.....	..	2.00

When micrometers are wanted reading in ten-thousandths of an inch, add suffix "V" as 1911V. Extra for ten-thousandths, \$1.75 each.

NOTE: Micrometers in the above style, with ranges from 6 to 12 inches, can be furnished.

Micrometer Sets

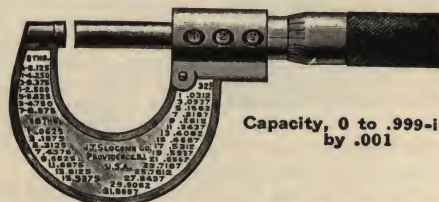
The above Micrometers, from 0 to 12 inches, are furnished in sets of various combinations. They are packed in well-built wooden boxes, with hinged cover. Prices on application.

No. 26 Slocomb Micrometer Calipers

Capacity, 0 to 1-inch

The frame of this caliper is drop-forged from bar steel. It is then highly polished and next pressed in polished dies under a hydraulic pressure of 300 tons to the square inch, raising the figures showing decimal equivalents.

Price, No. 26, with Friction Stop.....each \$8.00
 " " 26, without " " " " " 7.50
 " " 26, with " Thimble..... " 8.50

No. 35 Davenport-Slocomb Direct Reading Micrometers

Capacity, 0 to .999-inch by .001

Time saved, calculating saved, measurements made more easily, for there is less chance of error. Will read with accuracy to thousandths of an inch.

The counting device is so compactly designed and so centrally placed as to balance the micrometer nicely. It is held with perfect ease in one hand and operated in the usual way. No. 35, Including Genuine Morocco Case.....each \$17.50

No. 436 Starrett Micrometer Calipers

With Stainless Steel Sleeve and Thimble

Protects against rust or stain. Black enameled frame. For measurements by thousandths.

Range, 0 to 24 inches.

Sent without ratchet, without lock nut and without standards unless otherwise ordered.

Size In.	Range In.	Without Ratchet No Lock Nut Each	With Ratchet No Lock Nut Each	With Lock Nut Ratchet Each	With Lock Nut with Ratchet Each	Standards Extra	Case Extra
1	0-1	\$7.25	\$7.75	\$8.25	\$8.75	.....	\$1.25
2	1-2	8.00	8.50	9.00	9.50	\$1.00	2.50
3	2-3	8.75	9.25	9.75	10.25	1.25	3.00
4	3-4	9.50	10.00	10.50	11.00	1.50	3.50
5	4-5	10.25	10.75	11.25	11.75	1.75	4.00
6	5-6	11.00	11.50	12.00	12.50	2.00	4.75
7	6-7	12.00	12.50	13.00	13.50	2.25	*
8	7-8	13.00	13.50	14.00	14.50	2.50	*
9	8-9	14.00	14.50	15.00	15.50	2.75	*
10	9-10	15.00	15.50	16.00	16.50	3.00	*
11	10-11	16.00	16.50	17.00	17.50	3.25	*
12	11-12	17.00	17.50	18.00	18.50	3.50	*
13	12-13	18.00	18.50	19.00	19.50	6.00	*
14	13-14	19.00	19.50	20.00	20.50	6.50	*
15	14-15	20.00	20.50	21.00	21.50	7.00	*
16	15-16	22.00	22.50	23.00	23.50	7.50	*
17	16-17	24.00	24.50	25.00	25.50	8.00	*
18	17-18	26.00	26.50	27.00	27.50	8.50	*
19	18-19	28.00	28.50	29.00	29.50	9.00	*
20	19-20	31.00	31.50	32.00	32.50	9.50	*
21	20-21	34.00	34.50	35.00	35.50	10.00	*
22	21-22	37.00	37.50	38.00	38.50	10.50	*
23	22-23	40.00	40.50	41.00	41.50	11.00	*
24	23-24	43.00	43.50	44.00	44.50	11.50	*

*Sent in finished wood case without extra charge.

Can be furnished to read to ten-thousandths of an inch at an additional cost of \$1.75 each to above list prices.

No. 25 Slocomb One-Inch Micrometer Calipers



This caliper measures all sizes from 0 to 1 inch.

Finished in black enamel. Has drop-forged frame of I section style, giving great strength and rigidity with little weight. Decimal equivalents stamped on thimble.

Graduated to Read Thousandths

Without Friction Stop.....	each	\$6.25
Graduated to Read to .0001, Extra.....		1.75

Graduated to Read Half-Thousandths

Graduated to Read to .0005.....	each	\$6.25
With Friction Stop.....	each	6.75
With Lock Nut.....	each	7.25
With Lock Nut and Friction Stop.....	each	7.75

With Ball Point on Anvil and Spindle

This is the No. 25 micrometer with ball points on both anvil and spindle. This arrangement adapts the tool to many jobs where it is necessary to measure on a curved surface and flat point will not do.

With Ball Point on Anvil and Spindle.....	each	\$8.25
With Ball Point on Anvil and Spindle and Friction Stop.....	each	8.75

No. 27 Slocomb Micrometer Calipers
Graduated to Thousandths



This caliper measures all sizes from 1 to 2 inches inclusive. The frame is drop-forged from bar steel and finished in black enamel. Decimal equivalents are stamped on thimble; I section frame.

No. 27, without Friction Stop.....	each	\$7.00
No. 27, with Friction Stop.....	each	7.50
Graduated to Read to .0001, Extra.....		1.75

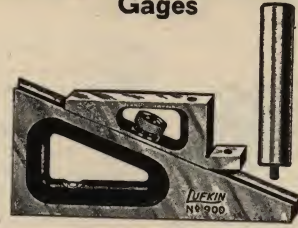
No. 28 Slocomb Micrometer Calipers



This caliper measures all sizes from 2 to 3 inches by thousandths of an inch. Frame is forged from bar steel and finished in black enamel. Decimal equivalents are stamped on thimble; I section frame.

Price, No. 28, with Friction Stop.....	each	\$8.25
" " 28, without " ".....	"	7.75
" Morocco Case, Extra.....	"	1.50

No. 900 Lufkin Master Planer and Shaper Gages



Designed to greatly facilitate the work and the saving of time by a planer or shaper hand in adjusting the depth of the first cut, or in setting the tools for any required cut. By setting the gage to a micrometer, surface gage or caliper, and bringing the planer tool in contact with the gage, the proper cut can be obtained.

The slide is so designed that with the use of one extension it is possible to get a tool setting from $\frac{1}{4}$ inch to 9 inches. Without the extension the range is from $\frac{1}{4}$ inch to $6\frac{1}{2}$ inches. The slide travels in a ground beveled slot.

The slide and base are accurately fitted so that the tool can be used as a sliding parallel within its limits, due to the long surface on the slide.

Gage can be used on base and end or flat on its side, as both slide and nut are within the outside width of the base.

The base and slide are made from drop-forged steel, hardened and ground. Base is $\frac{5}{8}$ inch thick, $5\frac{1}{8}$ inches long, and fitted with level. Slide contains clamping nut for locking in position.

Packed 1 in a box. Weight, 22 ounces.

No. 900.....	each	\$8.00
1-Inch Extension for No. 900.....	each	.75
Genuine Mahogany Case.....	each	1.50

Lufkin Improved Radius Gages



Gage

Packed 1 set in a box.

No. 77A

Has 16 gages, marked to indicate radii from $\frac{1}{32}$ to $\frac{1}{4}$ ths inch by 64ths.

No. 77A, with Leatherette Case.....each \$4.00

No. 77B

Has 8 gages, marked to indicate radii from $\frac{1}{32}$ to $\frac{1}{2}$ inch by 32nds.

No. 77B, with Leatherette Case.....each \$2.50

No. 77C

Has 24 gages, marked to indicate radii from $\frac{1}{32}$ to $\frac{1}{4}$ ths inch by 64ths and from $\frac{1}{32}$ to $\frac{1}{2}$ inch by 32nds.

No. 77C, with Leatherette Case.....each \$6.50

No. 77D

Has 16 gages, marked to indicate radii from $\frac{1}{32}$ to $\frac{1}{2}$ inch by 32nds.

No. 77D, with Leatherette Case.....each \$4.50

No. 77E

Has 8 gages, marked to indicate radii from $\frac{1}{16}$ to 1 inch by 16ths.

No. 77E, with Leatherette Folder.....each \$24.00

Extra Gages for Above Sets

From $\frac{1}{32}$ to $\frac{1}{4}$ ths Inch.....	each	\$4.40
From $\frac{1}{32}$ to $\frac{1}{2}$ Inch.....	each	.45
From $\frac{1}{16}$ to 1 Inch.....	each	3.00

No. 20 Holders Only for Radius Gage

No. 20.....	each	\$7.75
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Holder Only

No. 178 Starrett Fillet or Radius Gauges

This gauge may also be described as a concave and convex gauge, and is especially adapted for use in laying out special forming tools, dies, etc., as well as for measuring fillets.

Recommended for use by machinists, tool makers, and screw machine operators, as well as pattern makers.

Size A has 30 leaves stamped to indicate radii by 64ths from $\frac{1}{32}$ to $\frac{1}{4}$ inch (one-half diametric size). Diameters are from $\frac{1}{16}$ to $\frac{1}{2}$ inch varying by 32nds.

Size B is made with 32 leaves stamped to indicate radii by 64ths, from $\frac{1}{64}$ to $\frac{1}{2}$ inch. Diameters are from $\frac{1}{32}$ to 1 inch, varying by 32nds.

No. 178A.....each \$1.50
No. 178B.....each 2.00

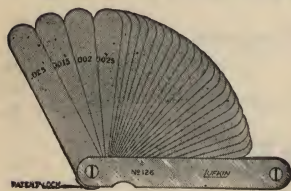
No. 71 Starrett Thickness Gauges

Contains the following leaves: .0015, .002, .003, .004, .006, and .015. This combination of leaves permits adjustment of tappets on motors and the gaging of slots from .0015 to .031. Leaves fold neatly in a metal case.

No. 71.....each \$.90

No. 126 Lufkin Thickness Gauges

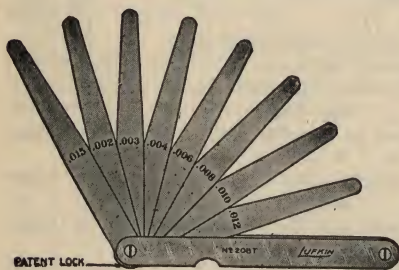
With Patent Lock



Any one or more leaves can be locked in any position for use or all locked into case for protection. Leaves are of tempered steel ground to exact thickness, individually tested, and each one clearly marked with its thickness. Length with leaf open, 6 inches; leaf only, 3 inches.

Leaves increase in thickness by one-thousandth inch. There are 26 leaves of the following thicknesses: .0015, .002, .0025, .003, .004, .005, .006, .007, .008, .009, .010, .011, .012, .013, .014, .015, .016, .017, .018, .019, .020, .021, .022, .023, .024, .025 inch. Packed 1 in a box; 3 in a carton.

Price, No. 126.....each \$3.50
" "126T with Tapered Leaves....." 3.50

Lufkin 8-Leaf Thickness Gauges

Popular with the motor mechanic for finding the clearance between pistons and cylinder walls.

Leaves fold into a regular case. Patent lock makes possible the locking of any leaf in any position.

Tapered leaves are of tempered steel, ground to exact thickness and clearly marked with its thickness.

Thicknesses: .002, .003, .004, .006, .008, .010, .012 and .015 inch.

Packed one in a box.

No. 208T

Leaves, $4\frac{1}{2}$ inches long, $\frac{1}{2}$ inch wide at base; tapered to $\frac{1}{4}$ inch. Overall length of gauge with leaf extended and locked, 9 inches. Weight each, $1\frac{1}{2}$ ounces.

Price, No. 208T.....each \$2.50

No. 308T

Leaves, 6 inches long, $\frac{1}{2}$ inch wide at base; tapered to $\frac{1}{4}$ inch. Overall length of gauge with leaf extended and locked, 12 inches. Weight each, 2 ounces.

Price, No. 308T.....each \$3.00

No. 74 Lufkin Screw Pitch Gauges

With Patent Lock



Designed to measure the pitch or number of threads per inch, of both U. S. form thread and the sharp V thread.

Each blade is marked with its pitch and on the outside of the case, the double depth of the U. S. form thread is given. To obtain the double depth of sharp V threads, for the same pitch, add one-third to the double depth given for U. S. form thread.

Blades are shaped to measure quickly the inside threads of nuts, as well as bolts and screws.

Screw pitch gauges are furnished with patent lock nut. Lock nut permits the locking of any one blade in any position, where that particular pitch is being used constantly.

Packed one in a box; 6 in a carton.

No.	Pitches	Weight Ounces	Price Each
74A	8, 9, 10, 11, $11\frac{1}{2}$, 12, 13, 14, 16, 18, 20, 22, 24, 27, 28, 30, 32, 36, 38, 40, 44, 48.....	1	\$1.50
74B	4, $4\frac{1}{2}$, 5, $5\frac{1}{2}$, 6, 7, 8, 9, 10, 11, $11\frac{1}{2}$, 12, 13, 14, 16, 18, 20, 22, 24, 27, 28, 30, 32, 36....	1	1.75
74C	8, 9, 10, 11, $11\frac{1}{2}$, 12, 13, 14, 16, 18, 20, 22, 24, 27, 28, 30, 32, 36, 38, 40, 44, 48, 50, 56, 60, 64, 72, 80.....	2	2.00
74D	3, $3\frac{1}{4}$, $3\frac{1}{2}$, 4, $4\frac{1}{2}$, 5, $5\frac{1}{2}$, 6, 7, 8, 9, 10, 11, $11\frac{1}{2}$, 12, 13, 14, 16, 18, 20, 22, 24, 27, 28, 30, 32, 36, 38.....	2	2.00

Starrett Screw Pitch Gages**No. 4**

Can be used inside of a nut or on outside of a screw or bolt. Also used as a 60-degree center gage and gage to test the grinding of either an inside or outside threading tool.

Has the following pitches:

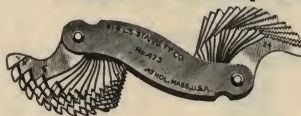
$4\frac{1}{2}$, 5, $5\frac{1}{2}$, 6, 7, 8, 9, 10, 11, $11\frac{1}{2}$, 12, 13, 14, 15, 16, 18, 20, 22, 24, 26, 27, 28, 30.

No. 4.....each \$1.50

No. 6

Of the same form as No. 4. Has 30 pitches as follows: 4, $4\frac{1}{2}$, 5, $5\frac{1}{2}$, 6, 7, 8, 9, 10, 11, $11\frac{1}{2}$, 12, 13, 14, 15, 16, 18, 20, 22, 24, 26, 27, 28, 30, 32, 34, 36, 38, 40 and 42.

No. 6.....each \$1.75

Starrett Stop Screw Pitch Gages

Positive stop holds leaves in fixed and convenient position for use. Number of the pitch is stamped on the right side of each

leaf. Packed 1 in a box; 6 boxes to a carton.

No. 473

Has $11\frac{1}{2}$ and 27 pipe thread pitches and 30 pitches, V thread, as follows: 6, 7, 8, 9, 10, 11, $11\frac{1}{2}$, 12, 13, 14, 15, 16, 18, 20, and 22 in one end of the case; 24, 26, 27, 28, 30, 32, 34, 36, 38, 40, 42, 48, 50, 56, and 60 in the other.

No. 473.....each \$1.80

No. 475

Similar to No. 473 but larger and has 26 coarse pitches, V thread as follows: $3\frac{1}{2}$, 4, $4\frac{1}{2}$, 5, $5\frac{1}{2}$, 6, 7, 8, 9, 10, 11, $11\frac{1}{2}$, and 12 in one end of the case; 13, 14, 15, 16, 18, 20, 22, 24, 26, 27, 28, 30, and 32 in the other.

No. 475.....each \$1.50

No. 161 Starrett Toolmakers' Parallel Clamps



Made of steel, case hardened, useful for holding small work together in tapping, drilling, etc. When ordering jaw only, state length desired.

No.	161AA	161A	161B	161C	161D	161E
No. 161..per pair	\$1.40	1.70	2.00	2.40	3.00	4.60
Opening Jaw . in.	3/4	1 1/4	1 3/4	2 1/4	2 3/4	3 1/2
Length Jaw . in.	1 3/8	2	2 1/2	3	4	5

No. 268 Starrett Drill Blocks and Clamps

Of cast iron material, sufficiently strong to stand any work they may be subjected to. The blocks are 1 1/2 inches square and 2 inches long, and are furnished in pairs.

The clamp will hold a round piece up to 1 1/8 inches in diameter firmly in the groove of the blocks, for prick punching, drilling or laying out a series of holes before and while being drilled.

Price, No. 268A, Two Drill Blocks	per pair	\$1.25
Price, No. 268B, Clamp	each	.60
Price, No. 268C, Set Complete	per set	1.85

No. 902 Lufkin Hold Downs



Designed to hold work securely and flat, without distorting in a vise or on a machine bed. Especially handy for holding thin work.

Made of steel, hardened and ground. Contact edges are slightly tapered and a clearance step is provided on the under side of the Hold Down.

All are made 2 5/8 inch wide so that one or more of the sizes can be used together on long work.

No.	902A	902B	902C	902D	902E
Per Pair	\$1.25	1.40	1.50	2.00	2.75
Size	2	3	4	5	6

No. 41 Starrett Firm-Joint Hermaphrodite Calipers



The point is adjustable. Joint has smooth, uniform friction.

Packed 3 in a box.

Size	inches	3	6	8	10
No. 41	each	\$.80	1.00	1.20	1.45

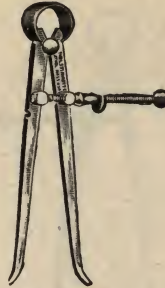
No. 243 Starrett Firm Joint Hermaphrodite Calipers



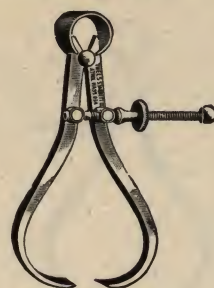
This tool is made with an offset leg which retains an adjustable round point. Made in 4 and 6-inch sizes only.

Length	inches	4	6
No. 243	each	\$.80	1.00

Starrett Yankee Spring Calipers and Dividers



No. 73, Inside Caliper



No. 79, Outside Caliper



No. 83, Dividers

Calipers and dividers are lightweight, inexpensive, but reliable. Equipped with quick adjusting spring or solid nut. Sent with solid nut unless otherwise ordered.

Packed 3 in a box.

Nos. 73, 79, and 83, with Spring Nut									
Size	inches	2 1/2	3	4	5	6	8	10	12
Each		\$1.00	1.05	1.10	1.15	1.20	*1.40	1.80	2.00

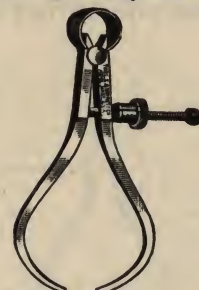
Nos. 73, 79, and 83, with Solid Nut									
Size	inches	2 1/2	3	4	5	6	8	10	12
Each		\$.80	.85	.90	1.00	1.05	†1.20	1.65	1.80

Duplicate Parts		
Screw and Ball	each	\$.20
Thumb Attachment (No. 83 Only)	each	.20
Solid Nut	each	.15
Spring Nut	each	.30
Leg (Right)	each	.30
Spring	each	.30
Jam Washer	each	.15
Fulcrum Stud	each	.15
Stud	each	.15
Leg (Left) with Screw Attached	each	.50

Starrett Fay Spring Calipers and Dividers



No. 74, Inside



No. 75, Outside



No. 77, Dividers

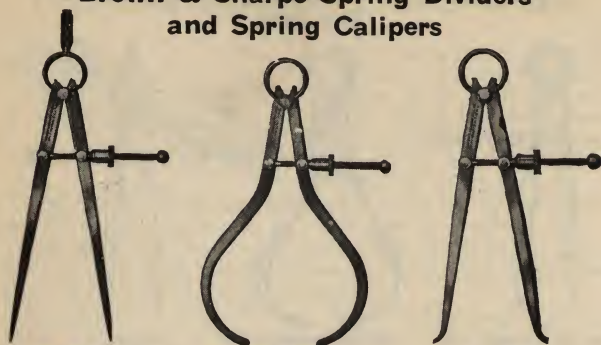
Quick-adjusting, automatic closing spring nut. Thread engages screw at the slightest pressure when leg comes in contact with the nut; when pressure is withdrawn, it releases itself immediately, sliding freely on the screw. Its use will save much valuable time in opening and closing spring-bow calipers and dividers.

Also made with solid nut. Furnished with spring nut unless otherwise specified. Packed 2 in a box.

Size	inches	2 1/2	3	4	5	6	8
Nos. 74 and 75, Solid Nut							
Nut	ea.	\$1.20	\$1.20	\$1.35	\$1.35	\$1.65	\$1.95
Nos. 74 and 75, Spring Nut							
Nut	ea.	1.40	1.40	1.50	1.50	1.80	2.10
No. 77, Solid Nut	ea.	1.20	1.20	1.50	1.50	1.95	2.25
No. 77, Spring Nut	ea.	1.40	1.40	1.70	1.70	2.10	2.40

Duplicate Parts		
Screw and Ball	each	\$.20
Thumb Attachment (No. 77 Only)	each	.20
Solid Nut	each	.15
Spring Nut	each	.30
Leg, Right	each	.40
Spring	each	.30
Jam Washer	each	.15
Fulcrum Stud	each	.15
Leg, Left, with Screw Attached	each	.60

Brown & Sharpe Spring Dividers and Spring Calipers

No. 810
DividersNo. 811
Outside CalipersNo. 812
Inside Calipers

Construction is lighter, but the same care is taken as in the more expensive line; the same spring, fitted to the legs in a somewhat different manner, is used and the same spring nut. Neat and attractive in appearance, and durable.

Packed 2 in a box.

No. 810 Dividers

Size.....inches	2½	3	4	5	6	8
Price, Spring Nut...each	\$1.00	\$1.05	\$1.10	\$1.15	\$1.20	\$1.50
" Solid " "	.80	.85	.90	1.00	1.05	1.35

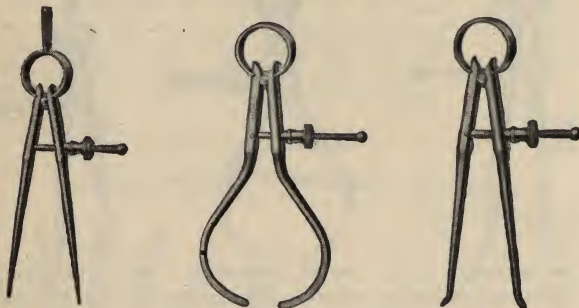
Nos. 811 and 812 Outside and Inside Calipers

Size.....inches	2½	3	4	5	6	8
Price, Spring Nut...each	\$1.00	\$1.05	\$1.10	\$1.15	\$1.20	\$1.40
" Solid " "	.80	.85	.90	1.00	1.05	1.20

Duplicate Parts

Leg.....each	\$.30
Screw and Ball.....each	" .20
Solid Nut.....each	" .15
Spring.....each	" .30
" with Thumb Attachment for Dividers.....each	" .50
" Nut.....each	" .30
Nut Washer.....each	" .15
Thumb Attachment.....each	" .20
Fulcrum Stud.....each	" .15

Brown & Sharpe Toolmakers' Spring Dividers and Spring Calipers

No. 800
DividersNo. 801
Outside CalipersNo. 802
Inside Calipers

The spring is unusually stiff and of a construction that insures rigidity, prevents side deflection of the legs and gives uniform pressure. The legs are of steel, round and highly polished. Measuring points come together evenly.

The 2-inch sizes are very convenient for small, light work and for carrying in the pocket.

Packed 2 in a box.

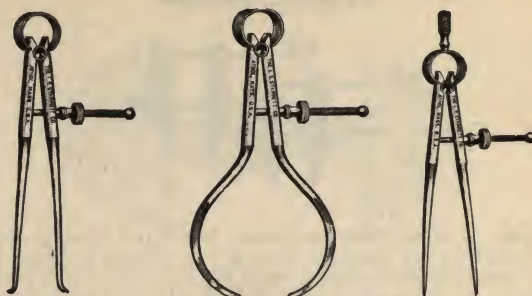
Nos. 800, 801, and 802

Size.....inches	2	3	4	5	6
Each.....	\$1.20	1.50	1.80	1.80	2.10

Duplicate Parts

Leg.....each	\$.40
Screw and Ball.....each	" .20
Nut.....each	" .15
Spring.....each	" .30
Spring with Thumb Attachment for Dividers.....each	" .50
Thumb Attachment.....each	" .20
Nut Washer.....each	" .15
Fulcrum Stud.....each	" .15

Starrett Toolmakers' Spring Calipers and Dividers

No. 274, Inside
CaliperNo. 275, Outside
Caliper

No. 277, Divider

These calipers and dividers are made from round stock with legs drawn down, making them tough and rigid.

The fulcrum stud is hardened, bows extra strong, screw and nut nicely fitted, all highly finished.

Made with solid nut only. Packed 2 in a box.

Size.....inches	2	3	4	5	6
Each.....	\$1.20	1.50	1.80	1.80	2.10

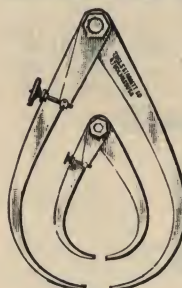
Duplicate Parts

Screw and Ball...each	\$.20	Leg (Right)....each	\$.40
*Thumb Attachment...each	.20	Leg (Left) with Screw	
Nut.....each	.15	Attached.....each	.60
Spring.....each	.30	Fulcrum Stud...each	.15
Jam Washer.....each	.15	*For No. 277 Dividers only.	

Starrett Perfected Firm Joint Screw Adjusting Calipers

The screw adjustment for fine measurements, the improved joint which may be set to any desired degree of uniform tension, the shape and stiffness of the legs, quickness and wide scope of adjustment, all go to make this caliper a desirable tool.

No. 35, not made larger than 24 inches.

No. 34,
Outside

Size Inches	Price Each	Size Inches	Price Each
4	\$1.10	16	\$2.70
6	1.20	18	3.00
8	1.50	20	3.30
10	1.80	24	4.20
12	2.10	30	7.20
14	2.40	36	8.40

No. 35,
Inside

Starrett Lock-Joint Transfer Calipers

Can be removed and replaced without losing size calipered by loosening nut binding one arm to auxiliary leaf and swinging it out or in (while joint is locked) to clear obstruction, then moving it back against a stop where it will show the exact size measured.

Size 4 to 12 inches, 3 in a box; 14 to 24 inches, 2 in a box.

No. 36,
Outside

Size Inches	Price Each	Size Inches	Price Each
4	\$1.50	14	\$3.00
5	1.70	16	3.30
6	1.80	18	3.60
8	2.10	20	4.20
10	2.40	24	5.50
12	2.70	..	....

No. 37,
Inside

No. 92 Starrett Dividers



Length.....inches	6	7	8	9
No. 92.....each	\$1.45	1.55	1.65	1.75

Both points are crucible forged steel, nicely tempered. Adjustable point may be instantly removed and common pencil inserted in its place, or ball points may be used.

No. 179 Starrett Outside Thread Calipers

For outside measurements of threads. Suitably shaped points to work in threads.

Furnished with solid nut unless otherwise ordered. Packed 3 in a box.

Size.....in. 4 5 6
Solid Nut..ea. \$.90 1.00 1.05
Spring Nut..ea. \$1.10 1.15 1.20

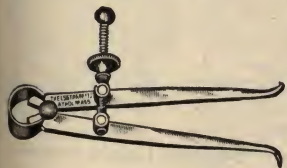


No. 184 Starrett Inside Thread Calipers

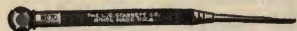
Has suitably shaped points to work in threads.

Sent with solid nut unless otherwise ordered.

Length Inches	Solid Nut Each	Spring Nut Each
4	\$.90	\$1.10
5	1.00	1.15
6	1.05	1.20



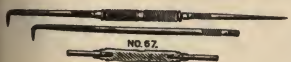
No. 70 Starrett Pocket Scribes



Scriber is reversible, telescoping into the stock and is held by a slight turn of chuck.

No. 70.....	70A	70B
Diameter Handle.....inches	1/4	3/8
Length Blade.....inches	2 3/8	2 7/8

No. 67 Starrett Scribes



All parts are interchangeable. The knurled sleeve is nicked. Packed 6 in a box.

Price, No. 67, Complete.....each \$.60
Price, No. 67, without Long Point.....each .45
Price, No. 67, Long Bent Point.....each .20
Price, No. 67, Straight Point or Short Bent Point.....each .15

No. 162 Starrett Pin Vises



Hole extends through full length of handle. Nickel-plated.

No.....	162A	162B	162C	162D
Capacity.....inches	.0 to .040	.030 to .062	.050 to .125	.115 to .187
Each.....	\$.65	.65	.65	.80

No. 162, Complete Set, (One of Each Size)..... \$2.75

No. 50 Starrett Improved Trammel Points

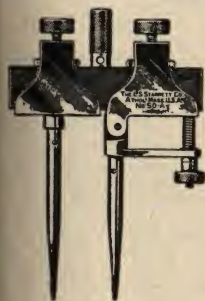
These trammels are made of bronze metal, with forged steel points, hardened. Either point can be removed, and the pencil socket accompanying each pair put in its place.

The bar shown in illustration, holding pencil socket in center with frames at each end, is similar to what would be used as a beam in using this tool, but is only long enough to permit easy packing in the tool chest, as well as in shipping.

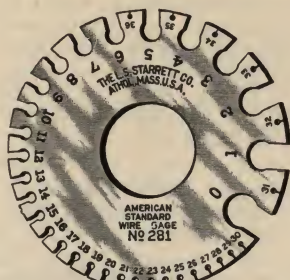
No. 50A sent unless otherwise ordered.

Nickel-plated.

Price, No. 50A with 3-inch Points, Adjustable...each \$3.50
" " 50B " 3 " " Not Adjustable " 2.25
" " 50C Extra Long Points, 5 inches...per set .50



Starrett American Standard Wire Gages



No. 281

Useful for gaging sheets, plates and wire of non-ferrous metal, such as copper, brass, aluminum, etc., also for electricians' use.

Carefully tested after hardening.

Approximate decimal equivalents are stamped on the reverse side.

Black finish.

Packed 2 in a box.

No. 281, Nos. 0 to 36.....each \$3.00
No. 282, Nos. 5 to 36.....each 2.50

No. 287 Starrett Wire Gages



Washburn & Moen standard.

U. S. steel wire gage.

For gaging steel wire and drill rod.

The decimal equivalents of the numbers are stamped on the back.

Each gage has black finish and is carefully tested after hardening.

Numbers 0 to 36.

Packed 2 in a box.

No. 287.....each \$3.00

No. 280 Starrett Steel Music Wire Gages



Washburn & Moen standard. Numbers 12 to 28. Each gage has a bright finish and is carefully tested after hardening. Packed 2 in a box.

No. 280.....each \$1.80

No. 283 Starrett United States Standard Gages



For uncoated sheet and plate iron and steel, based on weights in ounces per square foot.

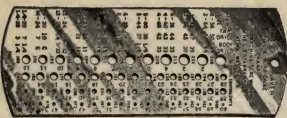
The decimal equivalents of each number stamped on reverse side.

Each gage is black finish and is carefully tested after hardening.

Numbers 0 to 36.

Packed 2 in a box.

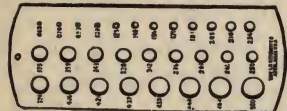
No. 283.....each \$3.00

No. 185 Starrett Tap and Drill Gages

Enables one to select at once right sized drill to suit machine screw taps most commonly used.

Approximately $\frac{5}{64}$ inch thick, $2\frac{5}{16}$ inches wide, and $6\frac{1}{4}$ inches long.

No. 185.....each \$2.40

No. 187 Starrett Jobbers' Drill Gages

Shows sizes from $\frac{1}{16}$ to $\frac{1}{2}$ -inch, varying by 64ths; is about $\frac{5}{64}$ inch thick, $2\frac{5}{16}$ inches wide, $6\frac{1}{4}$ inches long. Hardened, ground and rubbed to a bright finish and thoroughly tested after hardening.

No. 187.....each \$2.75

No. 588 Starrett Handy Ready Reference Tables

With Rule

Spring Steel, Quick Reading



Handy for toolmakers and machinists.

Size, $6\frac{3}{4}$ inches long, $1\frac{1}{4}$ inches wide and $2/100$ ths inch thick.

Has decimals, fractions and 6-inch rule with 32nds divisions on one side and tap and drill data and 6-inch rule with 64ths divisions on the other.

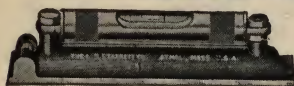
The 32nds divisions marked every 4, 8, 12, etc., lines; the 64ths divisions marked every, 8, 16, 24, etc., lines.

Quick reading feature on both sides.

The rule is incorporated so that no turning end for end is necessary—32nds or 64ths always in the natural position.



Price, No. 588.....each \$.90

Starrett Improved Levels

6 and 8-Inch

base on a shaft level in its cross section, not canted sidewise. The shape of a level glass is such that it will not be reliable when canted sidewise. This level has a concave grooving running the length of its base, improving its seat for flat work, while forming a true seat for shafting, etc. The outer tube protects the glass when not in use.

No. 97, with plain vial.

No. 98, with ground and graduated main vial.

Packed one in a box.

Length.....inches	6	8	*12	†18
No. 97.....each	\$2.60	\$3.00	\$4.75	\$6.75
No. 98.....each	4.25	5.00	7.00	10.00

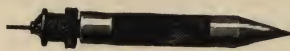
*With plumb. †With double plumb.

No. 132 Starrett Bench Levels

With double plumb; this level has a concave groove the length of base for shafting, etc. Sizes 4 to 12-inch

have square ends, 18 and 24-inch, concave ends.

Length.....inches	4	6	9	12	18	24
Each.....	\$1.80	2.10	2.40	2.70	3.75	4.50

No. 177 Starrett Steel Plumb Bobs

Made from solid steel, the mercury being omitted.

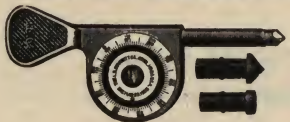
Lgth. In.	Diam. In.	Wt. Oz.	Price Each	Lgth. In.	Diam. In.	Wt. Oz.	Price Each
4	$\frac{1}{2}$	$2\frac{3}{4}$	\$1.00	$5\frac{1}{2}$	$\frac{7}{8}$	$8\frac{1}{2}$	\$1.75
5	$\frac{5}{8}$	5	1.25	6	1	$14\frac{1}{2}$	2.40

No. 87 Starrett Mercury Plumb Bobs

String fastens without knot by drawing it into slotted neck at top.

Made from solid steel, filled with mercury.

Length.....inches	4	5	$5\frac{1}{2}$	6
No. 87.....each	\$1.80	2.40	3.00	3.60
Diameter.....inches	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{7}{8}$	1
Weight.....ounces	$3\frac{1}{2}$	6	12	16

No. 104 Starrett High Speed Indicators

This indicator may be run at high speed without heating.

Working parts are encased and instrument is nickel-plated.

No. 104, in Pasteboard Box.....each \$1.25
No. 104, in Leather Case.....each 2.60

No. 107 Starrett Speed Indicators

Designed to automatically register hundreds as well as units and tens.

In Pasteboard Box.....each \$3.60
In Leather Case.....each 5.10

Redington Counting Machines

MODEL A.—Constructed entirely of steel parts. Flanged feet on back and bottom to attach to any machine. Can be set back to zero.

Size, $3\frac{1}{4} \times 2\frac{1}{2} \times 2\frac{1}{8}$ inches.

MODEL L.—Same as Model A, except with celluloid windows; lock and 2 keys.

MODEL AR.—Same as Model A, except with knob reset.

Model.....	A	L	AR
Each.....	\$6.25	7.25	7.75
Weight.....ounces	23	25	22

American Counters

No. 1

struction with the No. 1, except that it is provided with glass windows, also lock and two keys.

No.	Size In.	Wt. Lbs.	Price Each	No.	Size In.	Wt. Lbs.	Price Each
1	$6 \times 3\frac{1}{2} \times 3$	$4\frac{1}{2}$	\$8.25	2	$6 \times 3\frac{1}{2} \times 3$	$4\frac{1}{2}$	\$9.75

Non-Reset

Machined cast iron; malleable and steel parts.

For use on heavy duty punch presses, printing presses and other large machines. Will stand up under most severe usage. Easily set back to zero.

The No. 2 is identical in construction with the No. 1, except that it is provided with glass

GTD Plug and Ring Thread Gages
National Coarse (N.C.) and National Fine (N.F.)
Thread Sizes

Basic Fractional Sizes



No. 1502 Plug

Basic or standard plug is the Go size for classes 1, 2, 3, 4 and 5 fits; basic ring thread gage is the Go size for class 2 and class 3 fits.

All sizes, pitches, and threads not listed subject to special prices. Prices and deliveries on application. Left-hand and multiple threads special.

Thin gage blanks are used for ring gages up to 1/2", thick blanks are used above 1/2" with N.C. threads. Thin blanks are used in all N.F. thread ring gages.



No. 1504 Ring

Size In.	Per Set	No. 1502 Plug Style Each	No. 1504 Ring Style Each	No. THREADS		THICKNESS RING GAGES		Length Go Thread Member Inches
				N.C.	N.F.	Thin Blank	Thick Blank	
1/4	\$18.00	\$9.00		20	28	11/32	...	1/2
5/16	18.00	9.00		18	24	11/32	...	1/2
3/8	19.20	9.60		16	24	7/16	...	3/4
7/16	19.20	9.60		14	20	7/16	...	3/4
1/2	20.40	10.20		13	20	7/16	...	3/4
9/16	22.40	11.20		12	18	9/16	3/4	7/8
5/8	22.40	11.20		11	18	9/16	3/4	7/8
11/16	24.80	12.40		...	11, 16	9/16	3/4	7/8
3/4	24.80	12.40		10	16	9/16	3/4	7/8
7/8	27.20	13.60		9	14	11/16	15/16	1
1	30.00	15.00		8	14	11/16	15/16	1
1 1/8	34.00	17.00		7	12	11/16	15/16	1
1 1/4	38.00	19.00		7	12	3/4	1 1/8	*1
1 3/8	42.00	21.00		6	12	3/4	1 1/8	*1
1 1/2	46.00	23.00		6	12	3/4	1 1/8	*1

*With N.C. threads, 1 1/4 inches long.

GTD Limit Screw Pitch Gages



Made so that the same gage is suitable for inspecting both National form and V form of thread. Other gages are necessary for inspecting Whitworth form of thread. Limit pitch gages for American Standard Taper Pipe (NPT) threads are also furnished.

The following pitches are regularly furnished: 3, 3 1/2, 4, 4 1/2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 18, 20, 22, 24, 28, 30, 32, 36, 40, 44, 48, 50, 56, 64, 72, and 80.

Taper pipe threads 8, 11 1/2, 14, 18, and 27.

All other pitches and taper pipe threads are special and subject to special prices.

No.	Description	Each
1581	3 to 13 Pitch Incl., 4 In. Long (National or Whit. Form of Thrd.) Limits +.002 In. and -.002 In.	\$6.35
1581	14 to 80 Pitch Incl. 2 In. Long (National or Whit. Form of Thrd.) Limits +.002 In. and -.002 In.	6.35
1581	8 to 27 Pitch Incl. (Amer. National Std. Taper Pipe) Limits +.003 In. and -.003 In.	9.60
1582	8 to 10 Pitch Incl. 4 In. Long (A.P.I.) for Oil Well Casings; Taper 3/8 In. per Foot.	12.00

Limit Screw Pitch Gages in Sets

No.	Description	Per Set
1585	8 Gages, Pitches 11, 13, 14, 16, 18, 20, 24, 28..	\$51.00
1586	12 Gages, Pitches 8, 9, 10, 11, 12, 13, 14, 16, 18, 20, 24, 28.	76.50
1587	24 Gages, Pitches 4, 4 1/2, 5, 5 1/2, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 18, 20, 24, 28, 30, 32, 36, 44, 48, 56.	153.00

No. 1612 GTD Adjustable Limit Snap Gages
American Gage Design, Model A

This gage is for rapid inspection of duplicate parts. With one quick movement the gage accepts satisfactory work and rejects over or undersize pieces. The outer points are set to the maximum size and the inner points to the minimum. The weight of the part should govern the touch.

Under no circumstances should the operator force the work. This ruins the gage and permits oversize work to pass as satisfactory.

When ordering specify frame number. If gage is wanted set and sealed go and not go sizes to be gaged should be given.



Frame No.	Each	Range
1	\$9.50	0 - 1/2
2	10.00	1/2 - 1
3	10.50	1 - 1 1/2
4	11.00	1 1/2 - 2
5	11.50	2 - 2 1/2
6	12.00	2 1/2 - 3
7	13.00	3 - 3 3/4
8	14.00	3 3/4 - 4 1/2
9	15.00	4 1/2 - 5 1/4
10	16.00	5 1/4 - 6
11	17.00	6 - 7
12	18.00	7 - 8
13	19.00	8 - 9
14	20.00	9 - 10
15	21.00	10 - 11
16	22.00	11 - 12

GTD Master Discs or Setting Gages



Style 1



Style 2



Style 3

Designed for checking and setting snap gages, comparators, micrometers, etc.

Style 2, which combines Go and Not Go dimensions in one unit is ideal for setting snap gages.

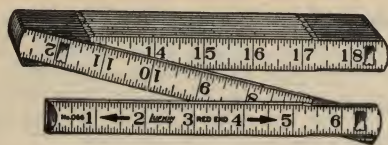
Regularly furnished to Class X, Class Y or Class XX tolerances.

Provided with insulated grips, green for Go and red for Not Go, which enable the user to readily identify the Go from the Not Go member, and prevent the fingers from coming in contact with the steel members.

SIZE RANGE		STYLE 1		STYLE 2		STYLE 3	
Above	To and Including	Class X	Class Y	Class X	Class Y	Class X	Class Y
.150	.240	\$13.50	\$11.50	\$21.50	\$18.50	\$12.50	\$11.00
.240	.365	13.00	11.00	21.00	18.00	12.00	10.50
.365	.510	12.50	10.50	20.50	17.50	11.50	10.00
.510	.825	12.00	10.00	20.00	17.00	11.00	9.50
.825	1.135	12.50	10.50	20.50	17.50	11.50	10.00
1.135	1.510	13.50	11.50	24.60	21.00	12.50	11.00
1.510	1.760	15.00	13.00	27.50	23.50	14.00	12.50
1.760	2.010	17.00	14.50	31.00	27.00	16.00	14.00
2.010	2.260	19.00	16.00	34.50	30.50	18.00	15.50
2.260	2.510	21.00	18.00	38.00	34.00	20.00	17.00
2.510	2.760	23.00	20.00	41.50	37.50	22.00	18.50
2.760	3.010	26.00	22.00	45.00	41.00	24.00	20.00
3.010	3.260	28.00	24.00	48.50	44.50	26.00	22.00
3.260	3.510	30.00	26.00	52.00	48.00	28.00	24.00
3.510	3.760	32.00	28.00	56.00	51.50	30.00	26.00
3.760	4.010	34.00	30.00	60.00	55.00	32.00	28.00
4.010	4.260	36.00	32.00	64.00	58.50	34.00	30.00
4.260	4.510	38.00	34.00	68.00	62.00	36.00	32.00

Prices for Master Discs to Class XX tolerance quoted on application.

Lufkin Red End Spring Joint Rules



Lock joints and strike plates of solid brass. The cream enamel is a new finish.

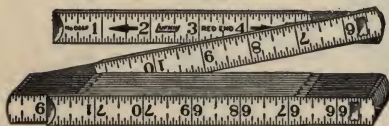
The white enamel is as near snow white as it is possible to obtain and both colors have a gloss finish.

Marked consecutive inches to 16ths, both edges, both sides. Six-inch folds, $\frac{5}{8}$ -inch wide. Can be furnished with the patent folding hook.

Length Feet	No. in Box	Wt. Lbs. per Doz.	CREAM ENAMELED		WHITE ENAMELED	
			No.	Price per Doz.	No.	Price per Doz.
4	6	2 $\frac{1}{4}$	054	\$5.20	064	\$5.60
5	6	2 $\frac{3}{4}$	055	6.40	065	6.90
6	6	3 $\frac{1}{2}$	056	7.20	066	7.80
8	6	4 $\frac{1}{2}$	058	10.00	068	10.80

No. 066F Lufkin Red End Spring Joint Rules

With Inside Markings



Made of flexible hardwood; rust-proof. Concealed joints of solid brass; brass strike plates on each section. Ends brass capped.

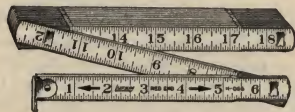
Patented lock joints aid in maintaining accuracy.

Width, $\frac{5}{8}$ inch. Length, 6 feet, with 6-inch folds. Has flat markings (numbering commences on inside face). Measurement lies close to work even when rule is but partly open. Marked in consecutive inches to 16ths, both edges of both sides.

Finished in durable white enamel, with red ends.

Packed 6 in a box. Weight per dozen, 3 $\frac{1}{2}$ pounds.

No. 066F, 6-Foot.....per dozen \$7.80

Lufkin Red End Spring Joint Rules
With Folding Hook

For taking measurements out of arm's reach, and handy in all measuring. Small substantial steel hook fitted to one end of the rule will fold up with a twist of the finger flush with the edge of the rule, so it can be used as a rule without a hook. The zero point falls at the inside of hook when open, at the extreme end of the rule, so it is the same as regular rules when the hook is closed.

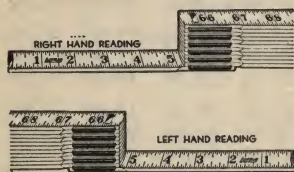
It has strike plates, solid brass trimmings, and concealed joints. Marked in inches to 16ths, both edges of both sides.

Length, 6 feet; weight, 3 $\frac{1}{2}$ pounds per dozen.

No. H056, Cream Enameled.....per dozen \$7.80

No. H066, White Enameled.....per dozen 8.40

No. 966 Lufkin 2-Way Red End Rules



The 2-way is adapted to measuring left to right and right to left. With it, when measuring distances longer than the rule, the balance of the space, completing the measurement, is found by simply turning over the rule, and still all figures are right

side up. This 2-way feature also makes it convenient for measuring right and left out of corners.

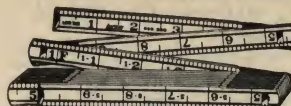
Has solid brass trimmings, strike plates preventing wear, white enamel finish, and bright red ends. Marked consecutive inches to 16ths on both edges of both sides; has 6-inch folds; is $\frac{5}{8}$ inches wide and 6 feet long.

Packed 6 in a box.

Weight per dozen, 3 $\frac{1}{2}$ pounds.

No. 966.....per dozen \$7.80

Lufkin Red End Rules



Solid brass lock joints and strike plates.

Marked one side in feet, 10ths, and 100ths; other side in feet, inches, and 16ths.

Length, 6 feet. Weight per dozen, 3 $\frac{1}{2}$ pounds. Six in a box.

No. 056D, Cream Enameled.....per dozen \$7.20

No. 066D, White Enameled.....per dozen 7.80

Lufkin Folding Rules



6-inch folds, $\frac{5}{8}$ -inch wide; length 6 feet. Has steel trimmings. Marked consecutive inches to 16ths, both sides. Packed 1 doz. in box.

Weight per doz., 3 pounds.

No. 450 Yellow Enamel.....per doz. \$3.10

No. 460 White Enamel.....per doz. 3.20

Lufkin Flexible Spring Joint Rules



Marked in consecutive inches to 16ths, both sides. Rivet joints. Brass trim. Made of flexible hardwood.

Packed: 3-foot lengths, 12 in box; 4 to 8-foot, 6 in box.

Cream Enameled

No.....	8523	8524	8525	8526	8528
Per Dozen.....	\$3.20	4.20	4.90	5.40	7.80
Length.....feet	3	4	5	6	8
Weight per Dozen...pounds	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	4

White Enameled

No.....	8623	8624	8625	8626	8628
Per Dozen.....	\$3.60	4.60	5.40	6.00	8.60
Length.....feet	3	4	5	6	8
Weight per Dozen...pounds	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	4

No. X56 Lufkin Red End Extension Rules

For Inside and Outside Measuring



A 6-foot rule made of finest hardwood in boxwood finish, straight grain, tough, flexible. Has red ends.

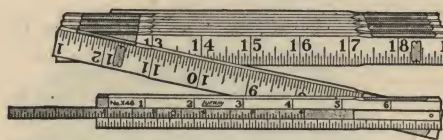
Brass extension slide, brass strike plates, patent lock joints, concealed joints.

Rule is $\frac{5}{8}$ inch wide; has 6-inch folds. Rule and slide prominently marked inches to 16ths.

Packed 6 in a box. Weight per dozen, 4 pounds.

No. X56.....per dozen \$9.00

Lufkin Folding Extension Rules



A 6-foot rule with 6-inch brass extension slide.

Width, $\frac{5}{8}$ in. Marked inches to 16ths.

No. X-46, without Hook.....per dozen \$12.00

No. HX-46, with Hook.....per dozen 13.20

Lufkin Folding Steel Rules



Rule has lock joints; $\frac{3}{4}$ inch wide. Marked both sides inches and 16ths.

No.	Length Feet	Each
1172	2	\$1.30
1173	3	2.00
1174	4	2.60
1175	5	3.30
1176	6	3.90
1178	8	5.40

Lufkin Aluminum Rules



Rust-proof; of aluminum, with solid brass, rivet type, spring joints. Surface is natural color; sunken graduations; black figures. Marked in consecutive inches in 16ths, both sides. Has 6-inch folds. Width, $\frac{1}{8}$ inch.

Packed 3 in a box.

No.....	1204	1205	1206	*1206F
Per Dozen.....	\$10.60	13.20	15.60	15.60
Length.....feet	4	5	6	6
Weight per Dozen.....pounds	3 $\frac{1}{4}$	4 $\frac{1}{4}$	5	5

*Inside or flat markings (numbering commencing on inside face).

Stanley Zig Zag Rules



Concealed joints, regular figuring. Stainless joints, tips and strike plates. Graduated in 16ths of an inch, both sides. Has 6-inch folds, $\frac{5}{8}$ inch wide. Packed 6 in a display carton.

Yellow Enamel		White Enamel		Length Feet	Wt., per $\frac{1}{2}$ Doz.
No.	Per Doz.	No.	Per Doz.		
04	\$5.40	104	\$6.00	4	1
05	6.60	105	7.20	5	1 $\frac{1}{4}$
06	7.80	106	8.40	6	1 $\frac{1}{2}$
08	10.80	108	11.40	8	2

Interlox Master Slide Rules



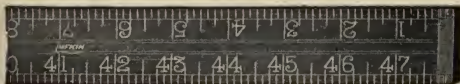
When closed, all the slides are locked together with the interlocking device except the first slide, which, when pulled out, releases the second slide, the second releases the third, and so on. This locking device prevents any error in taking measurements. The slides can not be extended or closed except in consecutive order. When the rule is fully extended it is held rigid in every joint by a dead lock.

The words "Inside Measure" and an arrow are stamped in red on each section. The red arrow stamped on top side of the rule indicates where to read inside measurement. The reverse side, used like any other ordinary rule for outside measurement, is marked "Outside" on each slide.

Packed 6 in a box. Weight, 1 ounce to the foot.

Length.....feet	4	6	8
Per Dozen.....	\$9.60	14.40	19.20

Lufkin Flat Wood Rules

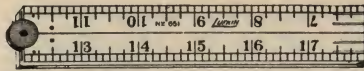


A one piece hard maple bench or table rule for general shop and factory use, and for saddlers, mechanics, etc.

Marked on both sides, both edges, one side 8ths, the other side 16ths inch.

Lgth. In.	Diam. In.	BRASS, CAPPED			BRASS BOUND		
		No.	Wt., Lbs. per Doz.	Price per Doz.	No.	Wt., Lbs. per Doz.	Price per Doz.
24	1½x⅜	7131	2¼	\$7.60	7131½	3¼	\$24.00
36	1½x⅜	7132	3¼	10.40	7132½	5¼	33.00
48	1½x½	7133	5½	13.90	7133½	9	42.00
60	1½x½	7134	6¾	17.70	7134½	10½	54.00
72	1½x¾	7135	8	22.00	7135½	13½	66.00

No. 651 Lufkin Boxwood Rules



Round joint. Graduated in 8ths and 16ths. Two foot, four-fold, 1 inch wide. Middle plates with

heavy, clear and distinct figures. Unbound.

Twelve in a box; weight, 1 $\frac{1}{4}$ pounds.

No. 651 (68).....per dozen \$2.40

No. 861A Lufkin Architects' Boxwood Rules

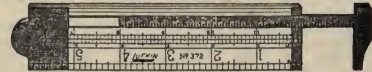


Arch joint. Graduated in 8ths, 10ths, 12ths and 16ths.

Two-foot, four-fold. One inch wide. Edge plates. Inside edges, beveled. Packed 6 in box. Weight, per dozen, 1 $\frac{1}{2}$ pounds.

No. 861A (53 $\frac{1}{2}$), with Architects' Scales. per dozen \$12.60

No. 372 Lufkin Boxwood Caliper Rules

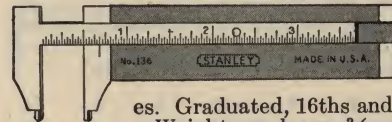


Square joint. Graduated in 8ths, 10ths, 12ths, and 16ths; caliper, 16ths and 32nds. One foot, two-fold, 1 $\frac{3}{4}$ inches wide.

Packed 6 in box. Weight, per dozen, 1 $\frac{3}{4}$ pounds.

No. 372 (36 $\frac{1}{2}$).....per dozen \$12.10

No. 136 Stanley Boxwood 4-Inch Caliper Rules



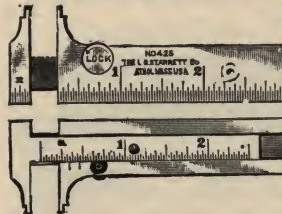
Caliper head milled for inside or outside calipering. Width, 1 $\frac{3}{8}$ inch.

es. Graduated, 16ths and 32nds.

Weight per dozen, $\frac{3}{4}$ pound.

No. 136.....per dozen \$6.60

Starrett Pocket Slide Calipers



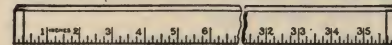
Improved clamping device is a valuable feature as it may be locked by thumb of same hand in which tool is held. Two lines on stock as shown in lower illustration enable user to get either inside or outside measurements.

No. 425 is graduated in 32nds and 64ths; No. 425-A is graduated in 32nds on stock and 100ths on slide.

Also furnished in stainless steel.

Size Inches	No. 425 Each	No. 425-A Each	Depth Jaws Inches	Nibs When Closed
3	\$4.00	\$4.00	1 $\frac{1}{16}$	.125
5	5.00	5.00	1 $\frac{1}{8}$	.250

Yard Sticks



Graduated 8th inches on one side and fractions of

yard measure on the other. Nos. 33 and 41 are of maple. No. 50 is of hickory. Nos. 41 and 50 have brass tips.

No.....	33	41	50
Per Doz.....	\$4.80	7.20	10.80
Width.....in.	$\frac{3}{4}$	1	$\frac{3}{4}$
Wt. Per Doz.....lbs.	2	3 $\frac{3}{4}$	2

Stanley Extension Rules



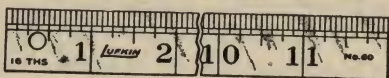
Maple, brass trim. No. H510 has hook on one leg.

Graduated in 8ths, 1 inch wide. Packed 12 in a package.

No.....	240	360	480	H510	612
Per Dozen.....	\$23.40	26.40	30.00	37.20	46.80
Length.....feet	2-4	3-6	4-8	5-10	6-12
Weight per Dozen..lbs.	6 $\frac{1}{2}$	9	11	14	17

No. 60 Lufkin Manual Training Steel Rules

Marked Upper Edge of Both Sides;
One Side 8ths, Other Side 16ths Inch



Tempered steel rule graduated to 16ths, for school shop and other uses.

Has machine divided, sunken lines and figures in black, contrasting with the steel rule surface. Opposite sides read from reverse ends.

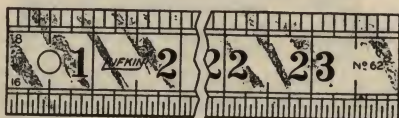
Width, $\frac{3}{4}$ -inch; thickness, $\frac{1}{32}$ -inch.

Hole in one end for hanging up.

Always specify stock number and length.

Length.....	feet	1	2
No 60.....	each	\$.50	1.00
Weight, Each.....	ounces	1 1/2	3

No. 62 Lufkin Steel Rules



Rules have bright surface, distinct black sunken figures and lines. They have hole in one end.

Well adapted to such general work as requires a long one-piece steel rule of medium weight, with common markings somewhat heavier than on machine divided scales. Marked both sides, upper edge 8ths, lower 16ths, $1\frac{1}{4} \times \frac{1}{16}$ inch.

Lgth.....ft.	1	2	3	4	5	6	8
Wt., Each..oz.	5	9	13	18	22	26	35
Each.....	\$1.50	2.50	3.60	5.50	7.50	9.60	14.00

No. 95 Lufkin Steel Circumference Rules



Made of tempered steel $1\frac{1}{4} \times \frac{1}{16}$ inch. On one side this rule is marked on upper edge in standard measurement inches to 16ths, lower edge circumference inches to 8ths. With it the circumference of any circle is arrived at by simply measuring the diameter. The other side of this rule carries a number of the most commonly used mathematical formulas and size tables for laying out cans and measures.

Length Feet	Weight Pounds	PRICE, EACH	
		Plain	Nickel-Plated
3	$\frac{3}{4}$	\$4.50	\$5.50
4	1	5.50	6.50

No. 96 Lufkin Steel Circumference Rules



Made of tempered steel $1\frac{1}{4} \times \frac{1}{16}$ inch. On one side this rule is marked on upper edge in standard measurement inches to 8ths, lower edge to 16ths. The other side of this rule is marked on upper edge in standard measurement inches to 16ths, lower edge in circumference inches to 8ths.

This rule also gives at a direct reading both the diameter and the corresponding circumference. Opposite sides read from same end.

Quarter inch hole at first end for hanging up. Medium weight.

Length.....	feet	3	4
Plain.....	each	\$4.50	\$5.50
Nickel Plated.....	each	5.50	6.50

Lufkin Wizard Tape-Rules

Flexible—Rigid



Rule blade is of high quality tempered steel, stiffened by special forming. Blade has nickel-plated surface with dark figures and lines in sharp contrast. It is manually withdrawn and returned.

Zero falls at inside of hook. Accurate butt end measurements can be taken from shoulders of blade. Marked in consecutive inches to 16ths both edges; first 6 inches, upper edge to 32nds. No. 686D marked in feet, 10ths and 100ths of feet upper edge, feet, inches and 16ths on lower edge. No. 686 packed 1 in a box, 6 in a carton; No. 688, 1 in a box. No. 686, 72-Inch, $\frac{5}{8}$ -Inch Wide.....each \$1.00
No. 688, 96-Inch, $\frac{5}{8}$ -Inch Wide.....each 1.50
No. 686-D, 6-Foot, $\frac{5}{8}$ -Inch Wide.....each 1.25
No. 6810, 120-Inch, $\frac{5}{8}$ -Inch Wide.....each 2.50

Lufkin Wizard Junior Tape-Rules



Nickel plated steel blade, $\frac{1}{2}$ inch wide, is stiffened by concave forming so it can be projected unsupported. Will also flex to measure circles, around corner, etc. Blade is manually operated. Remains set at any point. Solid hook is for measuring within or beyond arm's reach. Accurate butt end measurement is taken from shoulder of blade.

Nickel plated case, $1\frac{1}{8}$ inches in diameter, encloses blade. Rounded corners and ribbed at bottom to stand on edge.

Nos. 1686 and 1688 are marked on one side in inches to 16ths on both edges. First 6 inches of upper edge to 32nds.

No. 1686D is marked on one side in feet, 10ths and 100ths on upper edge. Inches and 16ths on lower edge.

No.....	1686	1688	1686D
Per Dozen.....	\$10.20	16.80	13.20
Length.....	72 in.	96 in.	6 ft.
Weight, per Dozen.....	lb. 2 1/4	2 1/2	2 1/4

Lufkin Mezurall Tape-Rules



For all inside and outside, height and depth flexible and rigid measurements.

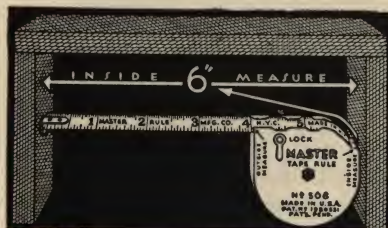
The nickel-plated, $\frac{1}{2}$ inch wide blade is manually operated. The blade remains set at any length withdrawn.

Adjustable end hook. Allows accurate measurements, either hook or butt end. Case is nickel-plated; $\frac{3}{16}$ inch thick and 2 inches wide, fully enclosing blade. Case will stand unsupported in 3 measuring positions.

Blade marked in inches to 16ths; first 6 inches upper edge to 32nds. Packed 1 in a box; 6 in a carton. Weight, 3 ounces.

No. 926, 72-Inch, Blade Marked One Side.....	each	\$1.25
No. 926B, 72-Inch, Blade Marked Both Sides.....	each	1.50
No. 928, 96-Inch, Blade Marked One Side.....	each	1.65
No. 928B, 96-Inch, Blade Marked Both Sides.....	each	1.90
No. S-926, Same as No. 926 but with Stainless Steel, Rust-Proof Blade.....	each	1.75

Master Flexible Steel Tape Rules



Short swing upward of lever which controls precision lock will retain any measurement as long as desired.

Polished nickel-silver case.

Measures inside, outside, height, depth, flexible, and marking.

Length Feet	Graduated on One Side Only		Graduated on Both Sides		Width Tape In.	Wt. Oz.
	No.	Each	No.	Each		
6	506	\$1.50	*406	\$2.00	$\frac{9}{16}$	3 3/4
8	508	2.00	408	2.70	$\frac{9}{16}$	4 1/2
6	906	1.50	*806	2.00	1 3/32	3

*With radius and layout measurements.

Lufkin Chrome Clad Leader Steel Tapes

Accurate steel tape, chrome plated. Markings durable as well as extra legible. Measurements easy to read, even in poor light, markings being jet black on satin chrome-white surface, free of glare. The hard chrome face resists both rust and wear, is smooth and easy to clean. Thus built up, of metal throughout, this tape will not crack, chip or peel, and is extra strong.

The $\frac{3}{8}$ -inch tape line is marked in feet, inches and eighths.



Black imitation leather case, metal lined; winding handle opened by push pin.

Packed 1 in a box.

No.	Each	Lgth. Ft.	Wt. Oz.
C250	\$3.50	25	9
C253	4.25	50	15
C255	5.75	75	20
C256	7.25	100	25

Lufkin Leader Chrome Clad Steel Measuring Tapes

With Hook Ring



A heavily chrome plated steel tape with jet black markings and satin chrome-white surface.

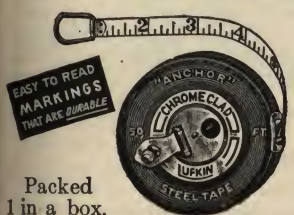
Instantaneous readings; zero falls at outer end of steel hook ring. Width, $\frac{3}{8}$ inch; marked one side only.

Case of mottled, black, imitation leather. Has substantial plated steel liner and a $\frac{3}{8}$ -inch wide, flat, flush, nickel plated edge band. Folding flush handle is opened by push pin.

No.	H-C250	H-C253	H-C255	H-C256
Each.....	\$3.70	4.45	5.95	7.45
Length.....inches	25	50	75	100
Weight.....ounces	9	15	20	25

Lufkin Chrome Clad Anchor Steel Tapes

Accurate, highest grade Steel Tapes, chrome plated. Markings durable as well as extra legible. Measurements easy to read, even in poor light, markings being jet black on satin chrome-white surface, free of glare. The hard chrome face resists both rust and wear, is smooth and easy to clean. Thus built up, of metal throughout, these Tapes will not crack, chip or peel, and are extra strong. Leather case, metal lined; winding handle opened by push pin.



Packed
1 in a box.

Nos.	Ft., In. & 8ths	Ft., 10ths & 100ths	Each	Width In.	Lgth. Ft.	Wt. Oz.
C210&C210D	\$6.00	$\frac{3}{8}$	25	9		
C213&C213D	7.30	$\frac{3}{8}$	50	15		
C215&C215D	9.50	$\frac{3}{8}$	75	21		
C216&C216D	12.50	$\frac{3}{8}$	100	26		
C310&C310D	6.90	$\frac{1}{2}$	25	10		
C313&C313D	8.30	$\frac{1}{2}$	50	19		
C315&C315D	10.90	$\frac{1}{2}$	75	26		
C316&C316D	13.80	$\frac{1}{2}$	100	31		

Lufkin Universal Steel Tapes



The steel line is of standard weight, $\frac{3}{8}$ inch wide, clearly marked and has instantaneous readings and Nubian finish. The case has flat, flush, nickel-plated edge band $\frac{3}{8}$ inch wide. Case is metal-lined and covered with black Keratol. Folding flush handle is opened by pressing pin on opposite side. All trimmings are nickel-plated. Tape marked

feet, inches and 8ths, one side only.

Packed 1 in a box.

No.	540	543	545	546
Each.....	\$3.10	3.50	4.80	5.90
Length.....feet	25	50	75	100
Weight.....ounces	6	10	15	17

No. 530 Starrett New Steel Tapes



A moderate priced tape. Markings are bright. Has $\frac{3}{8}$ -inch wide, quick reading tape, push button and folding handle. Graduated in feet, inches and eighths of an inch.

Length....feet	25	50	75	100
Price.....each	\$3.10	3.50	4.80	5.90

Lufkin Challenge Junior Steel Tapes



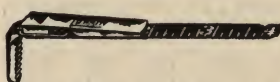
Tape is $\frac{1}{4}$ inch wide.

Genuine leather cases; nickel-plated trimmings and folding flush handle.

Nos. 1260 and 1263 are marked in feet, inches and 16ths; Nos. 1260D and 1263D are marked in feet, 10ths and 100ths, one side only. Packed one in a box.

No.	1260	1263	1260D	1263D
Length.....feet	25	50	25	50
Weight, Each.....ounces	4	7	4	7
Each.....	\$5.20	6.30	5.20	6.30

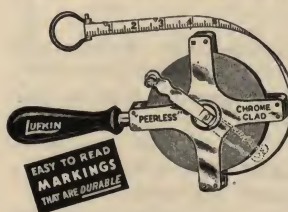
Lufkin Tape Hooks



Enables one man to take measurements. Easily slipped on steel tapes with standard end ring. Packed 12 in box.

No.	Each	For Tapes Inches	No.	Each	For Tapes Inches
551	\$.80	$\frac{1}{4}$	552	\$.80	$\frac{3}{8}$

Lufkin Peerless Chrome Clad Steel Tapes



A $\frac{1}{4}$ -inch steel tape, chrome plated, with jet black markings on satin, chrome-white surface, free of glare. Markings are easy to read and durable.

Resists rust, will not crack, chip or peel and is extra strong. Surface is hard, smooth and easy to clean.

Has four-arm, nickel plated metal frame with lock handle. Furnished with a pair of detachable finger rings and is detachable from frame. Zero falls at outer end of tape.

Marked one side only: No. C1276 in feet, inches and 8ths; No. C1276D in feet, 10ths and 100ths. Length, 100 feet.

Packed 1 in a box. Weight, 2 $\frac{3}{4}$ pounds.

No.	C1276	C1276D
Each.....	\$16.50	16.50

Lufkin Chrome Clad Oil Gaging Steel Tapes

With No. 588 Bob



A steel tape, chrome plated, with jet black markings and satin chrome-white surface, unusually free from glare. Tape resists rust, will not surface crack, chip or peel.

The No. 588 bob is of solid brass, cone shaped, weight 6 ounces, greatest diameter, $\frac{1}{4}$ inches; length, 2 $\frac{3}{8}$ inches. Furnished with folding handle.

The $\frac{3}{8}$ -inch tape is complete with frame and bob; marked feet, inches and 8ths, marked one side only.

No.	C280	C281	C283
Each.....	\$8.10	9.10	11.00
Length.....feet	25	33	50
Weight.....pounds	1 $\frac{1}{2}$	1 $\frac{1}{8}$	1 $\frac{3}{8}$

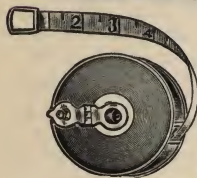
Lufkin Pocket Steel Tapes



Has $\frac{1}{4}$ -inch steel tape, nubian finish. Round edge nickel-plated case. Spring wind, center stop. Marked in inches and 16ths, one side only.

No.	143	145	146	148
Per Doz. . .	\$11.40	15.00	16.20	22.80
Lgth. . . in.	36	60	72	96

Lufkin Universal Ass Skin Tapes



Tape $\frac{1}{2}$ inch wide, cotton is coated; marked in feet, inches and fourths. Packed 1 in box, 6 in carton.

No.	Per Doz.	Lgth. Ft.	Wt. Lb.	No.	Per Doz.	Lgth. Ft.	Wt. Lb.
710	\$6.00	25	2 $\frac{3}{4}$	714	\$9.80	66	5 $\frac{1}{4}$
711	6.50	33	3 $\frac{1}{4}$	715	11.80	75	5 $\frac{3}{4}$
713	7.90	50	4	716	15.70	100	7

Lufkin Universal Linen Corded Tapes



Tape is $\frac{1}{2}$ inch wide and well coated with yellow paint. Sheet steel case, brass bound, with sides maroon enameled. Brass folding handle and trimmings. This line is extra durable, being corded with pure, unbleached linen.

Marked feet, inches and quarter inches, one side only.

Packed 1 in a box, 6 in a carton.

No.	730	731	733	*733R	734	735	736
Per Dozen. . .	\$8.30	9.30	13.10	15.30	14.80	16.40	20.30
Length. . . ft.	25	33	50	50	66	75	100
Wt. per Doz. . lb.	2 $\frac{3}{4}$	3 $\frac{1}{2}$	4 $\frac{1}{4}$	4 $\frac{1}{2}$	5 $\frac{1}{2}$	6	7

*Reinforced.

Lufkin Junior Metallic Tapes



Tape is $\frac{7}{16}$ inch wide, of linen with metallic warp and is clearly marked.

Case is of genuine leather with metal liner.

Folding flush handle is opened by push pin on opposite side.

Nickel-plated trimmings.

Patent threader which makes the removal of an old and attaching of a new line a simple operation.

Marked feet, inches and 8ths, one side only.

Packed, 1 in a box.

No.	660	663
Each. . .	\$4.10	5.10
Length. . . feet	25	50
Weight, Each. . ounces	6	9

Lufkin Metallic Tapes



Linen, $\frac{5}{8}$ inch, with metallic warp. Case is made of genuine leather with nickel-plated trimmings.

Nos. 500 to 506 marked in feet and inches and half inches; Nos. 500D to 506D marked in feet and 10ths and half 10ths, on one side only.

Packed one in a box.

No.	Lgth. Feet	Each	No.	Lgth. Feet	Each
500 & 500D	25	\$3.90	504 & 504D	66	\$6.40
501 & 501D	33	4.60	505 & 505D	75	7.00
503 & 503D	50	5.50	506 & 506D	100	8.70

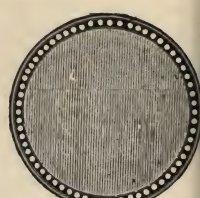
Graham Brass Key Checks



No. 350



No. 352



No. 362

No.	350	352	354	362	364
Thickness. . . in.	.035	.035	.035	.035	.035
Diameter. . . in.	1 $\frac{3}{16}$	1	1 $\frac{1}{16}$	1	1 $\frac{1}{4}$
Approx. No. per Pound. . .	130	85	62	110	74

Prices upon application.

Solar Self-Closing Waste Receptacles



The Solar Self-Closing Waste Receptacle is sanitary, fireproof, convenient, and as attractive as a piece of furniture.

Self-closing top swings open at a touch to receive deposits, yet is always closed when not in use.

Removable inner containers of suitable forms for various kinds of litter and refuse, afford an easy means of removing the contents without touching them.

Nos. 3, 5, and 10 are each equipped with 12 paper bags.

Nos. 12 and 15 are each equipped with a galvanized can.

Nos. 130, 140, 145, 50, 60, and 60A are each equipped with a burlap bag.

No.	Green or Gray Each	White Enamel Each	Grained Mahogany Each	Grained Walnut Each	Size Base Inches	Body Height Inches	Height Overall Inches	Ship. Wt. Lb.
3	\$4.40	\$4.85	\$8.25	\$9.20	9 x 9	6	10 $\frac{3}{4}$	8
5	5.50	5.95	8.55	9.90	9 x 9	14 $\frac{1}{8}$	19	12
10	6.60	7.15	10.20	12.30	11 $\frac{1}{2}$ x 11 $\frac{1}{2}$	18 $\frac{1}{4}$	24 $\frac{1}{4}$	19
12	9.10	9.90	13.20	15.70	11 $\frac{1}{2}$ x 11 $\frac{1}{2}$	27 $\frac{3}{4}$	34	31
15	9.90	10.75	14.30	17.10	11 $\frac{1}{2}$ x 11 $\frac{1}{2}$	35	41 $\frac{1}{4}$	34 $\frac{1}{2}$
130	11.00	12.10	16.50	20.20	16 x 16	26 $\frac{3}{4}$	34 $\frac{3}{8}$	43 $\frac{1}{2}$
145	12.10	13.20	17.60	21.75	16 x 16	30 $\frac{1}{2}$	38 $\frac{3}{8}$	49 $\frac{1}{2}$
50	16.50	19.25	26.40	32.85	21 x 21	35	46 $\frac{1}{4}$	89 $\frac{1}{2}$
*140	14.30	17.10	.....	.....	16 x 16	30 $\frac{1}{2}$	38 $\frac{3}{8}$	59 $\frac{1}{2}$
*60	22.00	24.75	.....	.....	21 x 21	36 $\frac{3}{4}$	47 $\frac{3}{4}$	108
†* 60A	25.30	.....	.....	.....	21 x 21	36 $\frac{3}{4}$	47 $\frac{3}{4}$	115

*For outdoor use. Rustproof. Stocked in gray or green finish only.

†Same as No. 60 but with advertising sign frames.

No. 165 Power Hack Saw Stands



A stand used for holding one end of steel while being sawed. Can also be used as a jack.

Has an up-and-down adjustment of six inches, swivel head and cast iron nut easily replaced when worn.

Diameter, Base. inches	14
Height, Extended. "	30
Contracted. "	24
Weight. pounds	80
No. 165. each	\$18.50

Marvel Draw Cut Hack Saws

No. 1—4x4 Inches



No. 1 Belt-Driven

Feed pressure is applied to saw blade on draw cut only, pressure being released on return stroke. Feed is regulated by hand nut at front end of compression spring. Feed lever raises or lowers saw frame and holds it at any angle.

Vise is quick action type. Jaws are of liberal dimensions. Extension to table so material rests on both sides of saw.

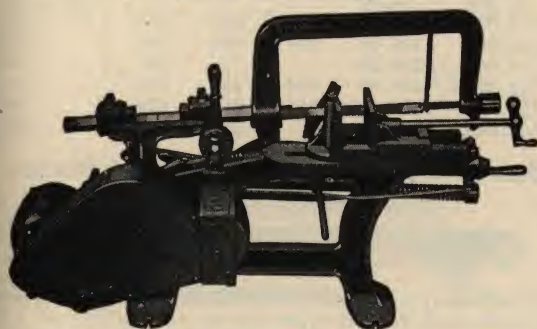
Drive shaft runs in an unusually long bronze bearing. Automatically stops when a cut is completed.

Capacity, 4x4 inches. Length of blade, 12 inches. Size of pulley, 18x2 1/4 inches. Revolutions, 60 to 90 per minute. Takes 2-inch belt.

Motor-driven No. 1 Saw uses 1/4-h.p. motor, connected to crank shaft by means of chains and sprockets running in oil in gear case.

Description	Each	Ship. Wt., Lbs.
Belt-Driven.....	\$46.00	140
Motor-Driven Complete, Including Motor:		
A.C. 110-220-Volt, 60-Cycle, Single-Phase....	90.00	225
A.C. 110-220-Volt, 25-Cycle, Single-Phase....	97.00	235
D.C. 115-230-Volt.....	94.00	225
A.C. 220-Volt, 60 Cycle, 2 or 3-Phase.....	93.00	225
A.C. 220-Volt, 25 Cycle, 3-Phase.....	98.00	235

No. 2—8x8 Inches



No. 2 Motor-Driven

Similar to No. 1, but much heavier throughout. Has loose, swivel vise so that material can be cut at an angle up to 45°. Entire vise can be removed, leaving a T-slotted table for holding jigs, irregular shapes, etc. Has adjustable stroke, longest stroke 6 3/4 inches, shortest stroke 4 inches.

Capacity, 6x6 inches on long stroke, 8x8 inches on short stroke. Takes any length blade from 12 to 17 inches. Revolutions, 50 to 70 per minute. Size of pulley (belt-driven machine), 20x2 3/4 inches. Takes 2 1/2-inch belt.

Motor-driven machine uses 1/2-h.p. motor connected to crank shaft by means of silent chain, machined sprockets, and intermediate cut gears all running in oil in gear case.

Description	Each	Ship. Wt., Lbs.
Belt-Driven.....	\$79.00	300
Motor-Driven Complete, Including Motor:		
A.C. 110-220-Volt, 60-Cycle, Single-Phase....	185.00	450
A.C. 110-220-Volt, 25-Cycle, Single-Phase....	192.00	450
D.C. 115-230-Volt.....	187.00	450
A.C. 220, 440, 550-Volt, 60-Cycle, 2 or 3-Phase	187.00	460
A.C. 220, 440, 550-Volt, 25-Cycle, 3 Phase.....	192.00	460

No. 249 Starrett Screw Slotting Saw Blades



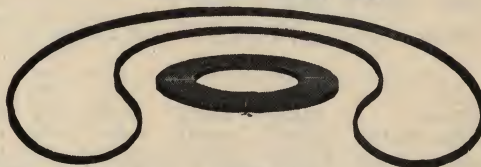
For cutting slots in screw heads and can be used in any adjustable or 8-inch hack saw frame. They are hardened throughout, and taper in thickness from the teeth to the back, thus providing good clearance, which prevents binding and allows the blades to cut easily and quickly.

Blades are 8 inches long and 1/2 inch wide. Furnished with either 14 or 24 teeth to the inch. 14 teeth sent unless otherwise specified. Packed 3 dozen of one thickness in a box, also in sets of 4, consisting of one blade of each thickness, 12 sets to a carton.

No.	249A	249B	249C	249D
Approx. Thickness at Teeth...in.	.049	.065	.083	.109
Per Gross.....	\$25.20	28.80	32.40	36.00
No. 249E, Set of 4 blades, 1 each Thickness...per set	\$.85			

Atkins Metal Cutting Hack Band Saws

Flexible Back—Hard Edge



Blades are of alloy steel. Teeth are milled of uniform shape and size, with deep gullets and hardened and tempered by a special process to the base of the teeth only.

Balance of the blade, though stiff enough to cut straight to the line, is flexible to withstand bending around the wheels of the machine and twisting through the guides. Usually recommended for low periphery speed.

In Coils, Any Length

Width In.	THICKNESS INCHES In. Gage	TEETH PER INCH	Per Foot	Welding or Brazing Each
3/8 and Under	.025	23	4, 6, 8, 10, 12, 14, 18, 24 or 32	\$.10 \$.40
1/2	.025	23	4, 6, 8, 10, 12, 14, 18, 24 or 32	.11 .40
5/8	.032	21	4, 6, 8, 10, 12, 14, 18, 24 or 32	.14 .50
3/4	.032	21	4, 6, 8, 10, 12, 14, 18, 24 or 32	.16 .50
1	.035	20	4, 6, 8, 10, 12, 14, 18, 24 or 32	.20 .50

In ordering, give make of machine, character and cross section of material to be cut, speed of machine in feet per minute, and whether wet or dry cutting.

Tempered to Order

Temperers listed are for general conditions only. Other temperers on special orders only.

TEMPER CER. Cast steel, high speed steel, nickel, chrome, vanadium, and similar alloy steel.

TEMPER KTR. Cold rolled steel, machine steel, cast and wrought iron, structurals, manganese and government bronze.

TEMPER SX SPECIAL. For hackbands made to run at 9,000 to 12,000 feet per minute.

Cut to Length, Brazed Ready to Use

Price, Per Foot

Lengths Inclusive	Under 3/8	3/8	1/2	5/8	3/4	1
		.025	.025	.032	.032	.035
5'6"-6'5"	\$1.00	\$1.00	\$1.06	\$1.34	\$1.46	\$1.70
6'6"-7'5"	1.10	1.10	1.17	1.48	1.62	1.90
7'6"-8'5"	1.20	1.20	1.28	1.62	1.78	2.10
8'6"-9'5"	1.30	1.30	1.39	1.76	1.94	2.30
9'6"-10'5"	1.40	1.40	1.50	1.90	2.10	2.50
10'6"-11'5"	1.50	1.50	1.61	2.04	2.26	2.70
11'6"-12'5"	1.60	1.60	1.72	2.18	2.42	2.90
12'6"-13'5"	1.70	1.70	1.83	2.32	2.58	3.10
13'6"-14'5"	1.80	1.80	1.94	2.46	2.74	3.30
14'6"-15'5"	1.90	1.90	2.05	2.60	2.90	3.50
15'6"-16'5"	2.00	2.00	2.16	2.74	3.06	3.70
16'6"-17'5"	2.10	2.10	2.27	2.88	3.22	3.90
17'6"-18'5"	2.20	2.20	2.38	3.02	3.38	4.10
18'6"-19'5"	2.30	2.30	2.49	3.16	3.54	4.30
19'6"-20'5"	2.40	2.40	2.60	3.30	3.70	4.50
20'6"-21'5"	2.50	2.50	2.71	3.44	3.86	4.70

Star Hack Saw Blades

All Hard Tungsten Hand Blades

Size Inches	TEETH PER INCH				Wt., Lb. per Gross	Per Gross
	14	18	24	32		
8x7/16x.025	....	818	824	832	3 3/4	\$8.00
10x 1/2x.025	1014	1018	1024	1032	5 1/4	10.00
12x 1/2x.025	1214	1218	1224	1232	6 1/2	12.00
12x9/16x.025	1214X	1218X	1224X	....	7 1/4	13.50

Flexible Tungsten Hand Blades

Hard edge, Flexible back blades. Tooth hardness equal to all hard blade but the body of the blade is unbreakable. A good general purpose hand blade.

Size Inches	TEETH PER INCH				Wt., Lb. per Gross	Per Gross
	14	18	24	32		
8x7/16x.025	....	818F	824F	832F	3 3/4	\$8.00
10x 1/2x.025	1014F	1018F	1024F	1032F	5 1/4	10.00
12x 1/2x.025	1214F	1218F	1224F	1232F	6 1/2	12.00
12x9/16x.025	1214FX	1218FX	1224FX	....	7 1/4	13.50

Super-Flexible Tungsten Hand Blades

Size Inches	TEETH PER INCH				Wt., Lb. per Gross	Per Gross
	14	18	24	32		
8x7/16x.025	....	818SF	824SF	832SF	3 3/4	\$8.00
10x 1/2x.025	1014SF	1018SF	1024SF	1032SF	5 1/4	10.00
12x 1/2x.025	1214SF	1218SF	1224SF	1232SF	6 1/2	12.00

In ordering always add the letters SF to the blade number. 18-tooth furnished unless otherwise specified.

High Speed Steel Hand Blades

Size Inches	TEETH PER INCH			Wt., Lb. per Gross	Per Gross
	18	24	32		
10x9/16x.025	1018	1024	1032	6 1/4	\$40.32
12x9/16x.025	1218	1224	1232	7	48.96
10x 5/8x.032	1058	....	....	8	90.00
12x 5/8x.032	1258	....	....	10	108.00

Moly Heavy Duty Hand Blades

Size Inches	TEETH PER INCH				Wt., Lb. per Gross	Per Gross
	14	18	24	32		
10x1 1/2x.025	....	1018 Moly	1024 Moly	1032 Moly	5 3/4	\$40.00
12x1 1/2x.025	1214 Moly	1218 Moly	1224 Moly	1232 Moly	6 3/4	48.00
10x 5/8x.032	....	1058 Moly	....	....	7 3/4	67.50
12x 5/8x.032	....	1258 Moly	....	....	9 3/4	81.00

High Speed Steel Power Blades

14 Teeth. For cutting steel tubing, structural shapes, high speed steel and tool steel.

10 Teeth. For cutting tool steel, cast iron, heavy angle iron, bronze and brass.

6 Teeth. For cutting machine steel, soft metals, large section metals, bronze and brass.

4 Teeth. For cutting heavy solid bars of stock.

Size Inches	TEETH PER INCH				Wt., Lb. per Gross	Per Gross
	14	10	6	4		
12x1 x.049	1219A	....	....	....	26 1/2	\$172.80
12x1 x.065	1215	1215C	....	35	172.80
14x1 x.049	1419A	....	....	....	30 1/2	201.60
14x1 x.065	1415	1415C	....	40 1/2	201.60
14x1 1/4x.065	1445	1445C	1445D	50	252.00
17x1 x.049	1719A	....	....	....	37	244.80
17x1 x.065	1715	1715C	....	48	244.80
17x1 1/4x.065	1745	1745C	1745D	61 1/2	306.00
18x1 x.065	1815	....	....	50 1/2	259.20
18x1 1/4x.065	1845	1845C	1845D	64	324.00
21x1 1/2x.065	2125	2125C	2125D	90	453.60
24x1 1/2x.065	2425	2425C	....	106	518.40
18x1 1/2x.072	1822C	1822D	85	427.68
21x2 x.072	2102C	2102D	134	665.28
24x2 x.072	2402C	2402D	159	760.32

When ordering be sure to write the words High Speed after each size of blade. Otherwise regular tungsten quality blades will be furnished.

Order by Number as a Safeguard Against Error

Starrett Hack Saw Blades

Hand Frame Sizes—Tungsten Alloy Steel

Furnished with alternate tooth set. The 10 and 12-inch sizes of No. 252 also available with wavy set. Order by number and size.

Size Inches	TEETH PER INCH				Weight Lb. per Gross	Per Gross
	14	18	24	32		
8x7/16x.025	....	103	102	253	3 3/4	\$8.00
10x 1/2 x.025	103B	103	102	253	4 3/4	10.00
12x 1/2 x.025	103B	103	102	253	5 3/4	12.00
12x9/16x.025	103A14	103A18	103A24	....	6 3/4	13.50

Size Inches	TEETH PER INCH				Weight Lb. per Gross	Per Gross
	14	18	24	32		
8x7/16x.025	....	250	252	258	3 3/4	\$8.00
10x 1/2 x.025	250D	250	252	258	4 3/4	10.00
12x 1/2 x.025	250D	250	252	258	5 3/4	12.00
12x9/16x.025	250A14	250A18	250A24	....	6 3/4	13.50

Starrett Hack Saw Blades

Tungsten 18-4-1 High Speed Steel

Order by number and size.

Hand Frame Sizes

Size Inches	Per Gross	BLADE No. No. OF TEETH PER INCH				Weight Pounds per Gross
		14	18	24	32	
10x9/16x.025	\$40.32	....	840	841	842	6 1/4
12x9/16x.025	48.96	839	840	841	842	7

Power Machine Sizes

Size Inches	Per Gross	BLADE No. No. OF TEETH PER INCH				Weight Pounds per Gross
		4	6	10	14	
12x1 x.049	\$172.80	....	....	....	860	26 1/2
12x1 x.065	172.80	....	852	850	....	35
14x1 x.049	201.60	....	....	....	860	30 1/2
14x1 x.065	201.60	....	852	850	....	40 1/2
14x1 1/4x.065	252.00	854	856	853	....	50
17x1 x.049	244.80	....	....	....	860	37
17x1 x.065	244.80	....	852	850	....	48
17x1 1/4x.065	306.00	854	856	853	....	61 1/2
18x1 x.065	259.20	....	....	850	....	50 1/2
18x1 1/4x.065	324.00	854	856	853	....	64
21x1 1/2x.065	453.60	857	858	859	....	90
24x1 1/2x.065	518.40	....	858	859	....	106

Star Molybdenum Steel Power Blades

Heavy Duty

Full efficiency will be realized if this blade is run at a speed not greater than 90 strokes per minute with a moderate feed. Maximum production and lowest cost per cut is thus assured. Select blade of proper dimensions.

Size	Per Gross	TEETH PER INCH				Wt. Lbs. per Gross
		14	10	6	4	
12x1 x.049	\$120.96	1219A	....	....	....	25
12x1 x.065	120.96	....	1215	1215C	....	31 3/4
14x1 x.049	141.12	1419A	....	....	....	27 1/2
14x1 x.065	141.12	....	1415	1415C	....	35 1/2
14x1 1/4x.065	176.40	....	1445	1445C	1445D	47
17x1 x.049	171.36	1719A	....	....	....	35
17x1 x.065	171.36	....	1715	1715C	....	44 1/2
17x1 1/4x.065	214.20	....	1745	1745C	1745D	56
18x1 x.065	181.44	....	1815	....	....	47
18x1 1/4x.065	226.80	....	1845	1845C	1845D	61
21x1 1/2x.065	317.52	....	2125	2125C	2125D	85
24x1 1/2x.065	362.88	....	2425	2425C	....	97 1/2
18x1 1/2x.072	299.52	....	....	1822C	1822D	78
21x2 x.072	465.12	....	....	2102C	2102D	140
24x2 x.072	532.80	....	....	2402C	2402D	146

Stamped Moly and finished in bronze.

When ordering by number, add the word Moly, otherwise regular tungsten alloy blades will be furnished.

No. 1042 Crescent Hack Saw Frames

This saw is adjustable 8 to 12 inches. Made round edge steel. Has nickel-plated frame, hardwood handle.



1 in box, 6 dozen in case. Wt., per dozen, 13 lbs.
No. 1042.....each \$.75

No. 1046 Crescent Hack Saw Frames



This is an all steel frame, adjustable style. The handle is made of heavy gauge steel in the popular pistol grip style and is securely riveted to the frame. It will stand throwing around without breaking.

Nickel-plated frame and handle.
Frame is adjustable for 8, 10 and 12-inch blades. Depth of cut, 2½ inches; steel, .164x¾.
Packed 1 in a box, with display easel in cover; 3 dozen in a shipping carton.
Weight each, 19 ounces.

Price, No. 1046.....each \$1.00

No. 1049 Crescent Hack Saw Frames



This is a frame of the adjustable style with a pistol grip handle made of a tough composition. The frame extends all the way through the handle, and handle will not break off.
Nickel-plated frame and black composition handle.
Packed 1 in a display box with blade; 3 dozen in a shipping carton.

No.	Size Adjustable Inches	Depth Cut Inches	Steel	Weight Ounces Each	Price Each
1049	8-12	3¼	⅜x1½	23	\$1.25

No. 1047 Crescent Hack Saw Frames



All steel frame, adjustable style. Handle is made of heavy gage steel in the popular pistol grip style and is securely riveted to the frame. This saw will stand throwing around without breaking.

Both frame and handle are nickel plated.
Adjustable, 8 to 12 inches. Depth of cut, 3¼ inches. Size steel, ⅜x1½ inches.
Packed 1 in a box with blade. Box has display easel in cover. Packed 3 dozen in a shipping carton.
Weight each, 23 ounces.

No. 1047.....each \$1.25

No. 1045 Crescent Hack Saw Frames Extra Heavy Duty



All steel, nickel plated. Adjustable for blades from 8 to 12 inches long. Steel used is ⅜x7⁄8 in. Packed one in a box.

No. 1045.....each \$2.00

Tiny Tim Hack Saws



Complete with Blades.....per doz. \$3.00
Blades, 6x¼x.014-In.; 28 Ga.; 32T.....per gross 9.00

No. 68 Klose-Kut Hack Saws



Saves time and blades for auto mechanics, electricians, carpenters, plumbers, machinists. Makes use of broken blades. Will take a standard ½-inch blade.

Rigid backbone prevents the wobble and bind which snaps blades in other saws.

Each saw complete with wave set, flexible back blade. Attractive display stand with each ½ dozen.

Packed 6 in a box; 6 dozen in a case.

Length.....inches 14½
Weight.....ounces 8
Price, No. 68.....per dozen \$9.00

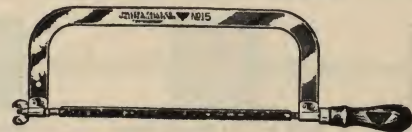
No. 6 Millers Falls Hack Saw Frames



The back is rigid and will stand great strain without bending. Polished and nicked steel, cocobola handle. Adjustable 6 to 12-inch blades.

Price, No. 6.....each \$2.60

Millers Falls Hack Saw Frames Capacity, 12 Inch Blade



Made for extra heavy work on rods, bars, structural shapes, etc.

Blade tension secured by tightening wing nut. Blade is faceable in four directions. One 12-inch blade furnished with each frame.

Depth, 5¼ inches. Stock, 1x¼ inches.

Mahogany finished hardwood handle.

Weight, 2 pounds.

No. 15A, Polished and Nickel-Plated.....each \$3.30

No. 515A, Black Enameled.....each 2.50

Disston Rail Hack Saw Frames



Made for cutting off rails, beams, girders, and other large work. Frame size, 1x¼ inch. Depth of frame, 10½ inches. Polished finish. Eyes are riveted to frame; round stretchers are reversible to four positions; pins in stretchers hold blades in position. Hardwood handles. Nos. 9 and 10 have handle on each end. Packed one in a box.

	7	8	9	10
Per Dozen.....	\$29.80	32.00	39.00	40.00
Cen. to Cen. of Blade..inches	12	13½	16½	18½
Weight per Dozen.....pounds	43	46	57	60

Files and Rasps

Nicholson

Arcade Heller

Kind.—By kind, we mean the varied shapes or styles of files which are distinguished by certain technical names, as, for instance, flat, mill, half-round, etc.

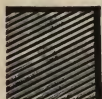
The kinds are divided from the form of their cross sections into three geometrical classes, namely: Quadrangular sections, circular sections, and triangular sections. Odd and irregular forms are collected under miscellaneous sections.

These sections are in turn sub-divided, according to their general contour or outline into taper or blunt.

Taper.—Designates a file the point of which is more or less reduced in size (both width and thickness) by a gradually narrowing section extending from one-half to two-thirds the length of the file, from the point.

Blunt.—Designates a file that preserves its sectional shape throughout, from point to tang.

Length.—The length of a file is the distance between its (heel (or part of the file where the tang begins) and the point for end opposite). The tang (or portion of the file prepared for the reception of the handle) is never included in the length. In general, the length of files bears no fixed proportion to either their width or thickness, even though they be of the same kind.



Mill, Bastard



Mill, Second Cut



Mill, Smooth

Double Cut
BastardDouble Cut
Second CutDouble Cut
SmoothFlat Wood Rasp
Bastard CutHalf Round Wood Rasp
Bastard CutCabinet Rasp
Second Cut

Cut.—The cut of files is divided, with reference to the character of the teeth, into single cut, double cut, and rasp cut; and, with reference to the coarseness of the teeth into rough, coarse, bastard, second cut, smooth, and dead smooth.

Regarding the latter, we may say briefly that the coarse and bastard cuts are used upon the coarser, heavier classes of work, while the second cut and smooth are used for finer grades and for finishing.

The single cut file is one in which a single, unbroken course of chisel cuts is made across its surface, arranged parallel to each other but with a horizontal obliquity to the central line.

The double cut file has two courses of chisel-cuts crossing each other, the second course, with rare exceptions, being finer than the first.

Single cut files.—Mill tapers, slim tapers, extra slim tapers, double extra slim tapers, handsaw blunt, handsaw blunt slim, bandsaw, pitsaw, lead float cantsaw, double ender, crosscut, special crosscut, round; 10-inch and under are single cut, over 10-inch are double cut.

Double cut files. Flat, hand, square, warding, knife, pillar, cabinet files, hand finishing, planer knife, flat aluminum, Nos. 75 and 76 hand brass, flat armory cut No. 204, square blunt, half round, and tapers.

Swiss Pattern files, designed to compete with the imported files of precision, are rapidly supplanting the latter in this country owing to their superiority of temper, cut, and adaptability.

Swiss Pattern files are double cut.

Flat Files



Bastard					
Length.....inches	4	5	6	8	10
Per Dozen.....	\$3.70	3.90	4.30	5.30	7.00
Length.....inches	12	14	16	18	20
Per Dozen.....	\$9.70	13.30	17.80	23.90	31.50
Second Cut					
Length.....inches	4	6	8	10	
Per Dozen.....	\$4.30	4.80	6.10	8.10	
Length.....inches	12	14	16	18	
Per Dozen.....	\$11.00	15.30	20.10	26.80	
Smooth					
Length.....inches	4	6	8	10	
Per Dozen.....	\$4.70	5.30	6.60	8.70	
Length.....inches	12	14	16	18	
Per Dozen.....	\$12.10	16.70	22.30	29.20	

Mill Files



Sizes 3 to 10-inch inclusive are packed 12 in a box; 12-inch and larger, 6 in a box.

Bastard						
Length.....inches	3	4	5	6	7	8
Price.....per doz.	\$3.00	3.00	3.20	3.50	3.90	4.30
Length.....inches	9	10	12	14	16	18
Price.....per doz.	\$4.90	5.60	7.50	10.70	14.70	20.20
Second Cut						
Length.....inches	4	6	7	8		
Price.....per doz.	\$3.50	4.00	4.60	4.90		
Length.....inches	10	12	14	16		
Price.....per doz.	6.40	8.60	12.20	16.80		
Smooth						
Length.....inches	6	8	10	12	14	16
Price.....per doz.	\$4.50	5.40	7.00	9.40	13.10	17.90
One Round Edge—Bastard						
Length.....in.	6	7	8	9	10	14
Price.....per doz.	\$3.90	4.40	4.80	5.50	6.30	8.40
Two Round Edges—Bastard						
Length.....inches	6	7	8	10	12	
Price.....per doz.	\$4.40	4.90	5.40	7.00	9.40	

Round Files



Sizes 4 to 10-inch inclusive are packed 12 in a box; 12-inch and larger, 6 in a box.

Bastard						
Length.....inches	4	5	6	7	8	10
Per Dozen.....	\$3.00	3.20	3.50	3.90	4.30	5.60
Length.....inches	12	14	16	18	20	.....
Per Dozen.....	\$7.50	10.70	14.70	20.20	27.40	.....
Second Cut						
Length.....inches	4	5	6	7	8	
Per Dozen.....	\$3.50	3.80	4.00	4.60	4.90	
Length.....inches	10	12	14	16	.....
Per Dozen.....	\$6.40	8.60	12.20	16.80	.....
Smooth						
Length.....inches	4	5	6	7	8	
Per Dozen.....	\$3.90	4.10	4.50	4.90	5.40	
Length.....inches	10	12	14	16	.....
Per Dozen.....	\$7.00	9.40	13.10	17.90	.....
Blunt—Bastard						
Length.....inches	8	10	12	14		
Per Dozen.....	\$5.60	7.50	10.70	14.70		

Square Files

Sizes 4 to 10-inch inclusive are packed 12 in a box; 12-inch and larger, 6 in a box. Double cut on all four sides.

Bastard						
Length...inches	4	5	6	7	8	10
Per Doz.....	\$3.80	4.10	4.60	5.10	5.50	7.40
Length...inches	12	14	16	18	20	.....
Per Doz.....	\$10.20	13.90	18.70	25.10	32.80	.....
Second Cut						
Length...inches	4	5	6	7	8	
Per Doz.....	\$4.60	4.80	5.10	5.80	6.30	
Length...inches	10	12	14	16	.....
Per Doz.....	\$8.50	11.50	16.10	21.20	.....
Smooth						
Length...inches	4	5	6	7	8	
Per Doz.....	\$4.90	5.30	5.50	6.30	7.00	
Length...inches	10	12	14	16	.....
Per Doz.....	\$9.10	12.80	17.50	23.30	.....
Blunt—Bastard						
Length...inches			8	10	12	
Per Doz.....			\$7.40	10.20	13.90	
Length...inches			14	16	18	
Per Doz.....			\$18.70	25.10	32.80	

Half-Round Files



Bastard					
Length...inches	4	5	6	7	8
Per doz.....	\$4.80	5.40	6.10	7.00	7.50
Length...inches	10	12	14	16	18
Per doz.....	\$9.10	11.80	15.50	20.60	27.50
Second Cut					
Length...inches	4	5	6	8	10
Per doz.....	\$5.60	6.10	6.70	8.30	10.10
Length...inches	12	14	16	18	.....
Per doz.....	\$13.00	17.00	22.50	29.90	.....
Smooth					
Length...inches	4	5	6	8	10
Per doz.....	\$6.10	6.40	7.10	8.90	10.70
Length...inches	12	14	16	18	.....
Per doz.....	\$13.90	18.30	24.20	32.00	.....

Warding Files



Bastard						
Length...inches	4	5	6	8	10	12
Price...per doz.	\$4.00	4.50	4.90	6.40	8.70	12.30
Second Cut						
Length...inches	4	5	6	8	10	
Price...per doz.	\$4.80	5.30	5.90	7.50	10.10	
Smooth						
Length...inches	4	5	6	8	10	
Price...per doz.	\$5.40	5.80	6.40	8.20	11.00	

Long Angle Lathe Files



For lathe filing and bench filing in finishing aluminum and various compositions of brass, bronze and similar metals.

Length...inches	6	8	10	12	14	16
Mill...per doz.			\$6.70	\$9.40	\$13.10	\$18.20
Flat...per doz.	\$4.80	\$6.30	8.60	11.80	16.00	21.50

Knife Files



Bastard						
Length...inches	4	5	6	8	10	12
Price...per doz.	\$5.40	6.10	6.90	8.50	10.10	13.70
Second Cut						
Length...inches	4	5	6	8	10	12
Price...per doz.	\$6.10	6.70	7.50	9.10	11.50	15.20
Smooth						
Length...inches	4	5	6	8	10	12
Price...per doz.	\$6.40	7.10	7.90	9.50	12.30	16.10

Taper Files



Sizes 3 to 10-inch inclusive are packed 12 in a box; 12-inch, 6 in a box.

Slim						
Length...inches	3	3½	4	4½	5	5½
Price...per doz.	\$2.10	2.10	2.20	2.30	2.50	2.90
Length...inches	6	7	8	10	12	.....
Price...per doz.	\$3.10	3.80	4.50	6.40	9.50	.....
Extra Slim						
Length...in.	4	4½	5	5½	6	7
Price...per doz.	\$2.20	2.30	2.50	2.90	3.10	3.80
Length...in.	8	10	12	.....	.....	.....
Price...per doz.	\$4.50	.....	.....	.....	.....	.....
Double Extra Slim						
Length...inches	4	4½	5	5½	.....	.....
Price...per doz.	\$2.20	2.30	2.50	2.90	.....	.....
Length...inches	6	7	8	.....	.....	.....
Price...per doz.	\$3.10	3.80	4.50	.....	.....	.....

Nicholson Extra Slim Blunt Handsaw Files



Single cut. Frequently preferred by carpenters and expert saw filers for filing handsaws.

Size...inches	5½	6	7
Handsaw Files...per doz.	\$3.80	4.50	5.40

Bandsaw Blunt and Taper Files



Regular						
Length...inches	4	5	6	7	8	10
Per Dozen.....	\$2.90	3.50	4.70	5.60	6.70	9.70
Slim						
Length...inches					6	8
Per Dozen.....					\$3.90	5.30

Cantsaw Files



Length...inches	5	6	7
Price...per doz.	\$4.70	5.40	6.10
Length...inches	8	10	12
Price...per doz.	\$6.40	8.70	11.40

Great American Crosscut Files



Sizes 6 to 10-inch inclusive are packed 12 in a box; 12-inch, 6 in a box.

Length...inches	6	8	9	10	12
Per Dozen.....	\$6.10	7.50	8.50	9.10	11.80

Nicholson Foundry Files



For snagging castings and other heavy work.

Size.....in.	8	10	12	14	16	18
Flat Bastard.....ea.	\$5.30	7.00	9.70	13.30	17.80	23.90
Half Round Bastard.....ea.	\$7.50	9.10	11.80	15.50	20.60	27.50
Round Bastard.....ea.	\$4.30	5.60	7.50	10.70	14.70	20.20
Square Bastard.....ea.	\$5.50	7.40	10.20	13.90	18.70	25.10

Nicholson Files

For Filing Die Castings



Has extra strong teeth on sides, corners and edges to resist shelling off and breaking out. Teeth are specially designed to file die castings without clogging.

On small die castings, a light to medium stroke should be used; on larger die castings, a heavy to medium stroke.

Files may be identified by the words "Die Cast Files" stamped on the shoulder.

Mill—Bastard Cut

Length.....inches	6	8	10	12	14
Per Dozen.....	\$3.50	4.30	5.60	7.50	10.70

Half Round—Smooth

Length.....inches	6	8	10	12	14
Per Dozen.....	\$7.10	8.90	10.70	13.90	18.30

Nicholson Files

For Stainless Steel



The chromium and nickel content of stainless steels makes them tough and dense, and causes them to have an abrasive action that tends to shorten the life of the general purpose file.

Thus a new file for stainless steel has been developed. Properly used with a light pressure and a slow, steady stroke, this new file removes the metal rapidly, requires little effort and leaves a good finish.

Files are now available in the same shapes and sizes as the general purpose files. The words "For Stainless Steel" are stamped on each file.

Sold at regular list prices.

Type A Nicholson Special Aluminum Files

Best suited for aluminum or aluminum castings, and will cut rapidly without clogging.

Made in flat and half round shapes. All are of one coarseness of cut. A smooth finish can be easily obtained by filing with a shearing cut toward the left.

Half Round



Half rounds, 10 inches and under, have fine points to file corners and crevices of small castings.

Size.....in.	6	8	10	12	14	16
Per Dozen.....	\$10.50	12.00	13.50	16.00	20.00	25.00

Flat



Has 2 safe edges.

Size.....in.	6	8	10	12	14	16
Per Dozen.....	\$5.30	7.00	8.50	11.00	14.50	19.50

Nicholson Brass Files



File is sharp and will not produce furrows or grooves on brass.

Length.....inches	6	8	10	12
Flat.....per dozen	\$5.30	7.00	8.50	11.00
Half Round.....per dozen	10.50	12.00	13.50	16.00

Nicholson Lead Float and Wood Files



Flat

Length.....inches	6	8	10
Dimensions.....inches	$\frac{5}{8} \times \frac{5}{8}$	$1\frac{3}{16} \times 1\frac{3}{16}$	$1\frac{1}{2} \times \frac{1}{4}$
Per Dozen.....	\$4.80	6.30	8.60
Length.....inches	12	14	16
Dimensions.....inches	$1\frac{3}{16} \times 1\frac{9}{16}$	$1\frac{3}{8} \times 1\frac{1}{2}$	$1\frac{17}{32} \times 2\frac{5}{16}$
Per Dozen.....	\$11.80	16.00	21.50

Half Round

Length.....inches	6	8	10
Dimensions.....inches	$\frac{5}{8} \times 1\frac{1}{16}$	$1\frac{3}{16} \times 1\frac{5}{16}$	$1\frac{1}{2} \times \frac{3}{4}$
Per Dozen.....	\$7.00	8.50	10.70
Length.....inches	12	14	16
Dimensions.....inches	$1\frac{3}{16} \times 1\frac{1}{2}$	$1\frac{3}{8} \times 1\frac{3}{8}$	$1\frac{19}{32} \times 1\frac{5}{16}$
Per Dozen.....	\$14.10	18.50	24.70

Flat Wood Rasps



Bastard

Length.....inches	8	10	12
Price.....per doz.	\$9.40	12.80	17.50
Length.....inches	14	16	.....
Price.....per doz.	\$23.20	30.80	.....

Smooth

Length.....inches	8	10	12
Price.....per doz.	\$12.80	17.50	23.20
Length.....inches	14	16	.....
Price.....per doz.	\$30.80	40.90	.....

Cabinet Rasps



Second Cut

Length.....inches	6	8	10
Price.....per doz.	\$10.10	12.80	17.50
Length.....inches	12	14	..
Price.....per doz.	\$22.80	29.60	.....

Smooth

Length.....inches	6	8	10
Price.....per doz	\$11.70	15.50	20.70
Length.....inches	12	14	..
Price.....per doz.	\$26.80	33.90	.....

Cabinet Files



Sizes 6 and 8-inch are packed 12 in a box; 10-inch and larger, 6 in a box.

Length.....inches	6	8	10	12	14
Price.....per doz.	\$8.10	10.10	13.70	18.70	24.80

Horse Rasps

Plain, 1/2 File



Length.....inches	14	16
Horse Rasps.....per doz.	\$17.80	24.40

Genuine Vixen Curved Tooth Files

Flexible Standard Cut File (Attached to Back)



Vixen Flexible Files are favorably known in the auto body building trade, and are particularly adapted to all other types of sheet metal work. They have teeth on both sides and should be attached, when in use, to a back, as shown in the above illustration. This back may be either straight or bent to any reasonable curve; the file, being flexible, will conform to the shape of the back. This gives the convexity desired for many classes of work.

Flexible Standard Cut File



The standard cut file is well known. The flexible smooth cut file is gaining favor in auto body repair shops for finishing and where the amount of metal to be removed is slight. Both files are used mostly in 12 and 14-inch lengths.

Narrow Flexible File

For use between two or more strips of moulding. Made in 14-inch lengths and in three widths $\frac{5}{8}$, $\frac{3}{4}$, and 1 inch. Nine teeth per inch. Packed 1 dozen in a box.

Flat Standard Cut File



This corresponds to the ordinary bastard cut for all classes of rough work and should be used on aluminum castings, babbitt, brass, cast iron, copper, slate, etc.

Flat Fine Cut File

This cut corresponds to the ordinary second cut file and should be used on aluminum sheet, cast iron, phosphor-bronze, white brass and all metals for fine finish.

Flat Smooth Cut File

This corresponds to the ordinary smooth cut. Adapted for lathe work, die and tool work, etc.

Utility File

A flat file with the standard cut on one side and smooth cut on the other. A valuable addition to the equipment of every automobile, motor boat, etc.

The standard (coarse) side should be used for wood, lead, solder and all soft metals, cast iron, steel, etc., and the smooth side for chilled iron, hard steel, bronze, etc., and all places where only a small amount of material is to be removed.

Made in 8, 10, 12, 14 and 16-inch lengths. The 8 and 10-inch sizes are packed 1 dozen in a box; other sizes, $\frac{1}{2}$ dozen in a box.

Flat Babbitt File



Made in 12 and 14-inch lengths, flat shape only. Coarser than the regular cut. Adapted for use on babbitt metal, solder and all softer metals, also on wood, etc. Packed $\frac{1}{2}$ dozen in a box.

Half-Round Standard Cut File (Solid Type)



Made in all lengths. Packed 1 dozen in a box in the 8 and 10-inch sizes and $\frac{1}{2}$ dozen in a box of the larger sizes.

Half-Round Standard Cut File (Shell Type)



Has teeth on the convex side only. Meets all conditions where a milled-tooth half-round file is required. Made in all sizes in standard, fine and smooth cuts, (12 and 14-inch sizes generally used on body work).

Moulding File

Moulding files have teeth on concave face and are used for filing the moulding on bodies. The use of a Vixen Moulding File preserves the contour of the moulding.

Made in all lengths; regular cut. Packed 1 dozen in a box.

Oval Standard with Tang Cut on Two Sides



Oval Bent Standard without Tang Cut on One Side Only



Pillar Standard Cut File



Vixen Pillar Files are used principally in pattern shops, where a narrow file for finishing wood or metal patterns is necessary.

Made in standard, fine and smooth cuts, in 8, 10, 12 and 14-inch lengths. The 8 and 10-inch lengths are packed 1 dozen in a box; other sizes, $\frac{1}{2}$ dozen in a box.

Square Standard Cut File



Used principally in keyway or where a narrow file is necessary. Square files are made in all sizes and in the standard, fine and smooth cuts.

Price, per Dozen

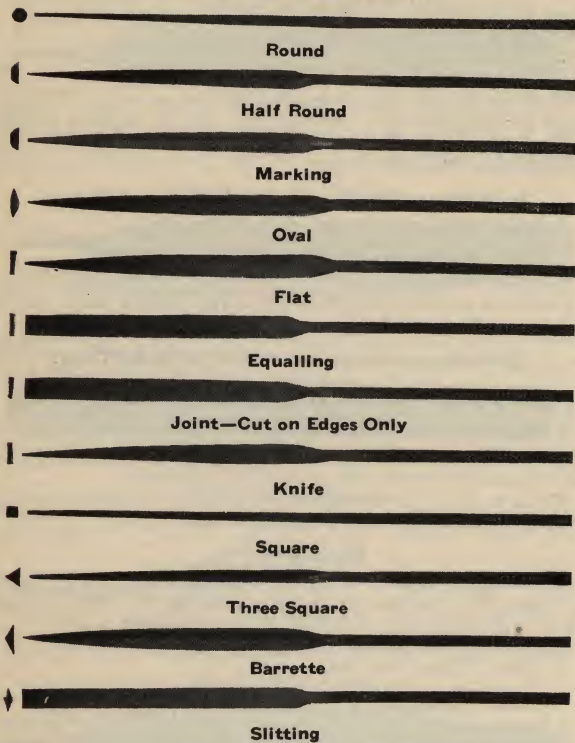
Size In.	*Flexible			Flat			Half-Round and Oval			Pillar				Square			Utility Flat	Babbitt Flat		
	Stand-ard	Fine	Smooth	Stand-ard	Fine	Smooth	Stand-ard	Fine	Smooth	Stand-ard	Fine	Smooth	Stand-ard	Fine	Smooth					
8	\$14.20	\$17.10	\$18.50	\$19.50	\$12.90	\$15.50	\$16.90	\$17.90	\$15.10	\$17.80	\$19.10	\$14.10	\$17.00	\$18.40	\$20.10	\$13.50	\$16.30	\$17.80	\$14.80	\$16.60
10	17.80	20.70	22.10	24.20	16.10	18.80	20.10	22.20	18.30	21.00	22.30	17.70	20.40	22.00	23.30	16.90	19.60	21.10	18.10	19.90
12	21.40	24.30	25.70	28.80	19.40	22.20	23.30	26.40	21.70	24.40	25.50	21.50	24.10	25.10	27.10	20.40	23.30	24.50	21.30	23.90
14	25.70	28.50	29.90	34.10	23.30	25.90	27.10	31.30	26.00	28.40	29.40	25.10	27.90	29.70	31.80	24.50	27.10	28.40	25.30	26.60
16	30.70	33.40	34.90	39.10	27.90	30.40	31.80	36.00	31.00	33.50	34.90	.....	.....	.....	.....	29.20	32.00	33.30	29.70	.....
18	37.00	40.00	41.20	45.10	33.70	36.30	37.50	41.70	37.70	.....	.....	.....	.....	.....	.....	35.30	38.10	39.40	.....	.....
*Flexible files are cut on both sides.																				

*Flexible files are cut on both sides and must be attached to a back when in use.

PER DOZEN

Size In.	Bolts and Nuts			Resharp-ening	Flat			Flexible			Square		Pillar		Half-Round	
	Steel Backs	per Dozen Sets			Length Inches	Width Inches	Thick-ness Inches	Width Inches	Thick-ness Inches	Diam-eter Inches	Width Inches	Thick-ness Inches	Width Inches	Thick-ness Inches	Width Inches	Thick-ness Inches
8	\$7.20	\$2.40		\$2.70	8	$1\frac{3}{16}$	$\frac{13}{64}$	$1\frac{3}{16}$	$\frac{13}{64}$	$\frac{19}{64}$	$\frac{9}{16}$	$\frac{9}{32}$	$\frac{11}{16}$	$\frac{11}{32}$	$1\frac{3}{16}$	$\frac{15}{64}$
10	7.80	2.40		3.00	10	1	$\frac{1}{4}$	$1\frac{3}{16}$	$\frac{13}{64}$	$\frac{8}{8}$	$\frac{11}{16}$	$\frac{11}{32}$	1	$\frac{9}{32}$	$1\frac{3}{16}$	$\frac{15}{64}$
12	8.40	2.40		3.40	12	$1\frac{3}{16}$	$\frac{19}{64}$	$1\frac{3}{16}$	$\frac{13}{64}$	$\frac{7}{8}$	$\frac{13}{16}$	$\frac{13}{32}$	$1\frac{3}{16}$	$\frac{13}{32}$	$1\frac{3}{16}$	$\frac{25}{64}$
14	9.00	3.00		3.60	14	$1\frac{23}{64}$	$\frac{11}{32}$	$1\frac{3}{8}$	$\frac{15}{64}$	$\frac{5}{8}$	$\frac{15}{16}$	$\frac{15}{32}$	$1\frac{3}{8}$	$\frac{25}{64}$	$1\frac{27}{64}$	$\frac{29}{64}$
16	9.60	3.00		3.99	16	$1\frac{35}{64}$	$\frac{25}{64}$	$1\frac{15}{16}$	$\frac{15}{64}$	$\frac{3}{4}$	$\frac{7}{8}$	...	...	$\frac{27}{64}$	$1\frac{19}{64}$	$\frac{1}{2}$
18	10.20	3.00		4.30	18	$1\frac{23}{32}$	$\frac{7}{16}$	$1\frac{3}{4}$	$\frac{15}{64}$	...	...	...	...	...	...	...

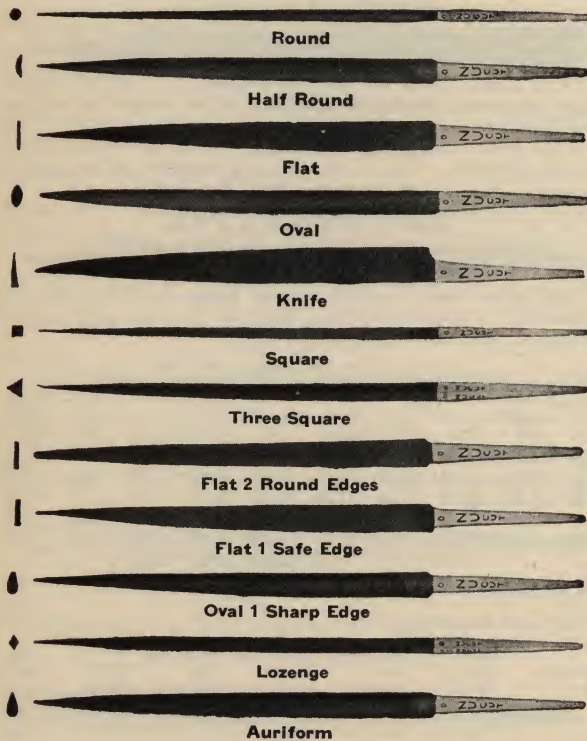
Heller Swiss Pattern Needle Files Round Knurled Handles



Furnished in cuts Nos. 0, 2, 4, and 6. Packed in dozens, either assorted, one of each shape, or all one shape.

Length.....inches	4	4 ³ / ₄	5 ¹ / ₂	6 ¹ / ₄
Per Dozen.....	\$2.50	2.80	3.20	3.50

Heller Die Sinkers Files

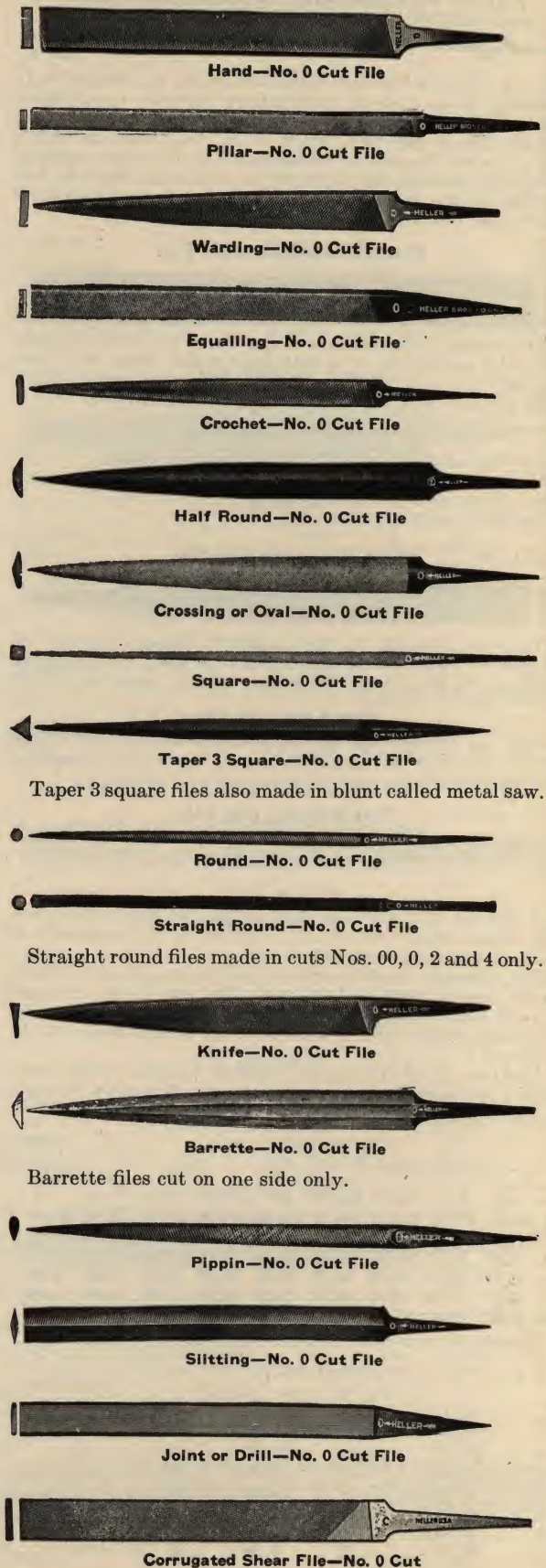


Used by die sinkers when working on dies. Made in 3¹/₂ inch size only in cuts Nos. 0, 1, and 2.

Packed as an assortment, one of each of the 12 shapes.

Per Dozen.....	\$4.40
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Heller Swiss Pattern Files



Taper 3 square files also made in blunt called metal saw.

Straight round files made in cuts Nos. 00, 0, 2 and 4 only.

Barrette files cut on one side only.

Corrugated Shear File—No. 0 Cut

Heller Swiss Pattern Files

List of February 1, 1930

Price, per Dozen

Length Inches	Hand*				Pillar				Pillar Narrow				Pillar Extra Narrow			
	00 & 0	1 & 2	3 & 4	6	00 & 0	1 & 2	3 & 4	6	00 & 0	1 & 2	3 & 4	6	00 & 0	1 & 2	3 & 4	6
3	\$3.70	\$3.90	\$4.30	\$5.20	\$3.00	\$3.10	\$3.40	\$4.30	\$3.00	\$3.10	\$3.40	\$4.30	\$3.00	\$3.10	\$3.40	\$4.30
4	3.70	3.90	4.30	5.20	3.00	3.10	3.40	4.30	3.00	3.10	3.40	4.30	3.00	3.10	3.40	4.30
5	4.20	4.60	5.20	6.30	3.20	3.40	3.80	4.80	3.20	3.40	3.80	4.80	3.20	3.40	3.80	4.80
6	4.90	5.40	6.30	7.60	3.40	3.70	4.30	5.30	3.40	3.70	4.30	5.30	3.40	3.70	4.30	5.30
8	7.00	7.70	8.60	9.90	4.80	5.20	6.00	7.20	4.80	5.20	6.00	7.20	4.80	5.20	6.00	7.20
10	9.30	10.40	11.50	13.40	6.60	7.00	8.40	10.00	6.60	7.00	8.40	10.00	6.60	7.00	8.40	10.00
12	12.30	13.80	15.40	17.60	9.00	9.80	11.20	13.00	9.00	9.80	11.20	13.00	9.00	9.80	11.20	13.00

Length Inches	Round				Square				Half Round				Crossing			
	00 & 0	1 & 2	3 & 4	6	00 & 0	1 & 2	3 & 4	6	00 & 0	1 & 2	3 & 4	6	00 & 0	1 & 2	3 & 4	6
2 1/2	\$2.50	\$2.70	\$2.90	\$3.20	....	....	....	....	....	....	....	....	....	....	....	....
3	2.50	2.70	2.90	3.20	\$3.40	\$3.50	\$3.60	\$3.80	\$4.50	\$5.00	\$5.90	\$7.40	\$5.20	\$5.60	\$6.40	\$7.80
3 1/2	2.80	3.00	3.20	3.60	....	....	....	....	5.10	6.00	6.90	8.40	....	....	....	....
4	2.80	3.00	3.20	3.60	3.80	4.00	4.40	4.80	5.10	6.00	6.90	8.40	5.60	6.20	7.20	9.00
4 1/2	....	....	....	....	....	....	....	....	5.90	7.00	8.10	10.40	....	....	....	....
5	3.40	3.70	4.00	4.40	4.20	4.50	5.20	6.00	5.90	7.00	8.10	10.40	6.30	7.20	8.40	10.40
6	4.00	4.40	4.80	5.20	5.00	5.40	6.20	7.40	6.80	8.00	9.20	11.60	7.60	8.60	9.80	12.00
7	....	....	....	....	....	....	....	....	8.00	9.30	10.60	13.00	....	....	....	....
8	5.80	6.20	6.60	7.30	6.00	6.80	8.40	10.20	10.00	11.30	12.70	15.20	11.30	12.40	13.80	16.20
10	7.80	8.60	9.60	11.20	7.40	9.00	10.80	13.20	13.30	14.60	16.80	19.60	15.00	16.40	19.00	23.00
12	10.00	11.30	13.70	16.80	8.80	11.20	14.00	17.00	17.20	18.40	20.90	24.00	19.00	21.10	23.80	28.20

Length Inches	Warding				Three Square				Metal Saw				Barrette			
	00 & 0	1 & 2	3 & 4	6	00 & 0	1 & 2	3 & 4	6	0	1 & 2	3 & 4	.....	00 & 0	1 & 2	3 & 4	6
3	\$2.80	\$3.00	\$3.30	\$3.80	\$3.90	\$4.20	\$4.50	\$5.00	\$3.90	\$4.20	\$4.50	.....	\$5.00	\$5.10	\$5.30	\$5.50
3 1/2	....	....	....	....	3.90	4.20	4.50	5.00	3.90	4.20	4.50	.....	....	....	....	....
4	3.20	3.60	4.10	4.80	3.90	4.20	4.50	5.00	3.90	4.20	4.50	.....	5.50	5.60	5.80	6.00
5	3.80	4.40	5.10	6.00	4.30	4.70	5.20	5.80	4.30	4.70	5.20	.....	6.00	6.20	6.60	7.10
6	4.60	5.30	6.10	7.00	4.80	5.20	5.90	6.60	4.80	5.20	5.90	.....	6.60	7.00	7.60	8.40
8	6.20	6.90	8.10	9.60	6.20	6.80	7.60	9.00	6.20	6.80	7.60	.....	8.60	9.20	10.00	11.00
10	8.20	9.50	11.50	13.50	8.40	9.10	10.40	12.20	....	....	....	.....	....	....	....	....

Length Inches	Equaling				Knife				Crochet				Round Straight			
	00 & 0	1 & 2	3 & 4	6	00 & 0	1 & 2	3 & 4	6	00 & 0	1 & 2	3 & 4	.....	00 & 0	2	4	.....
3	\$3.20	\$3.50	\$3.90	\$4.40	\$4.00	\$4.40	\$4.80	\$5.40	\$4.50	\$4.80	\$5.40	.....	....	....	....	....
4	3.60	4.00	4.40	5.40	4.40	5.00	5.60	6.60	5.00	5.40	6.00	.....	\$2.80	\$3.00	\$3.20	....
5	4.00	4.40	5.00	6.20	4.80	5.60	6.60	8.40	5.80	6.30	7.00	.....	3.50	3.90	4.30	....
6	4.40	4.90	5.60	7.00	6.00	7.00	8.00	10.50	6.80	7.40	8.20	.....	4.20	4.80	5.40	....
8	6.00	6.60	7.60	9.00	8.60	9.80	11.40	15.00	9.60	10.40	11.20	.....	6.70	7.40	8.20	....
10	....	....	....	....	....	....	....	....	12.80	13.80	14.80	.....	....	....	....	....

Length Inches	Cant				Slitting				Pippin				Joint			
	00 & 0	2	4	.....	00 & 0	2	4	.....	0	1 & 2	4	.....	Rd. Edge 0 & 2	Sq. Edge 0 & 2	.....	.....
3	\$6.70	\$7.50	\$8.80	....	....	....	....	....	\$4.60	\$5.00	\$5.60	.....	....	\$3.00	\$2.80	....
4	6.70	7.50	8.80	....	\$5.60	\$6.60	\$7.60	....	5.40	5.80	6.40	.....	....	3.40	3.20	....
5	7.70	8.60	10.00	....	7.40	8.40	9.60	....	....	....	....	.....	....	4.20	4.00	....
6	7.70	8.60	10.00	....	8.80	10.00	11.20	....	7.40	8.00	8.80	.....	....	5.20	5.00	....
8	9.70	10.60	12.00	....	10.60	11.80	13.20	....	10.00	10.60	11.40	.....	....	7.00	6.80	....

Round Handle Needle Files

Round, half round, flat, oval, knife, square, three square, equaling, joint, barrette, slitting, marking, or assorted shapes.

Length...in.	4	4 3/4	5 1/2	6 1/4
0, 2, 4 and 6				
...per doz.	\$2.50	2.80	3.20	3.50

Square Handle Needle or Escapement Files

Round, half round, flat, oval, knife, square, three square, equaling, joint, barrette, slitting, half round blunt, or assorted shapes.

Length.....inches	5 1/2
Cuts 0, 2, 4 and 6.....per dozen	\$3.30

Parallel Machine Files

Round x 1/4, half round 3/8x1/8, pillar 1/4x1/8, oval 1/4x3/32, knife 3/8x3/32, square x 1/4, three square x 3/16, crochet 1/4x1/8, cant 3/8x3/16, pippin 1/2x3/32, lozenge 5/16x3/16, equaling 1/4x1/8, or assorted shapes.

Length.....inches	5
Cuts 00, 0 and 2.....per dozen	\$6.40

Bench Filing Machine Files

Round, half round, pillar, oval, knife square, three square, crochet, equaling, pippin, lozenge, cant, or assorted shapes.

Size.....inches	3 1/4x3/8	3 1/4x1/4
Cuts 00, 0 and 2.....per dozen	\$4.50	5.00

Die Sinkers' Files

Round, half round, flat, oval, knife, square, three square, flat 2 round edges, flat 1 safe edge, oval 1 safe edge, lozenge, auriform, or assorted shapes.

Length.....inches	3 1/2
Cuts 0 and 2.....per dozen	\$4.40

Screw Head Files

Length.....inches	3
With or Without Tang...per doz.	\$4.00

Broach Files

Length.....inches	3
Twist Drill Gauge 40 to 65....per dozen	\$1.90

*Six-inch hand straight rowing in cuts No. 0, 1, 2 and 4 for corrugating the edges of barber shears take same list prices as regular goods. Hand files finer than No. 2 have two safe edges. Hand corrugating files have two safe edges in all cuts.

The above list comprises all of the kinds, sizes and cuts of files that will be regularly carried in stock. Anything differing from these files will be considered as special and will not be manufactured except in case of urgent necessity and when manufactured price will be based strictly upon cost of material and cost of manufacture at time goods are made.

Heller 8-Inch Parallel Machine Files**Pillar**

Made in No. 000, No. 00, No. 0 or No. 2 cuts.
 Width.....inches $\frac{3}{16}$ $\frac{1}{4}$ $\frac{3}{8}$ $\frac{1}{2}$ $\frac{5}{8}$ $\frac{3}{4}$
 Per Dozen.....\$3.85 4.00 4.25 4.50 5.00 5.50

Warding

Made in No. 00, No. 0 or No. 2 cuts.
 Per Dozen.....\$4.20

Half Round

Made in No. 000, No. 00, No. 0 or No. 2 cuts.
 Width.....inches $\frac{3}{16}$ $\frac{1}{4}$ $\frac{3}{8}$ $\frac{1}{2}$ $\frac{5}{8}$
 Per Dozen.....\$5.10 5.30 5.45 5.95 6.65

Knife

Made in No. 00, No. 0 or No. 2 cuts.
 Per Dozen.....\$5.85

Round

Made in No. 000, No. 00, No. 0 or No. 2 cuts.
 Diameter.....inches $\frac{3}{16}$ $\frac{1}{4}$ $\frac{3}{8}$ $\frac{1}{2}$ $\frac{5}{8}$
 Per Dozen.....\$3.50 3.60 4.20 5.00 5.50

Square

Made in No. 000, No. 00, No. 0 or No. 2 cuts.
 Diameter.....inches $\frac{3}{16}$ $\frac{1}{4}$ $\frac{3}{8}$ $\frac{1}{2}$ $\frac{5}{8}$
 Per Dozen.....\$4.85 5.00 5.25 5.90 6.60

Three-Square

Made in No. 000, No. 00, No. 0 or No. 2 cuts.
 Diameter.....inches $\frac{3}{16}$ $\frac{1}{4}$ $\frac{3}{8}$ $\frac{1}{2}$ $\frac{5}{8}$
 Per Dozen.....\$4.85 5.00 5.60 5.85 6.25

Cant

Made in No. 00, No. 0 or No. 2 cuts.
 Per Dozen.....\$6.15

Lozenge

Made in No. 00, No. 0 or No. 2 cuts.
 Per Dozen.....\$7.10

Crochet

Made in No. 000, No. 00, No. 0 or No. 2 cuts.
 Width.....inches $\frac{3}{16}$ $\frac{1}{4}$ $\frac{3}{8}$ $\frac{1}{2}$ $\frac{5}{8}$
 Per Dozen.....\$5.90 5.90 6.00 6.45 7.00

Pippin

Made in No. 00, No. 0 or No. 2 cuts.
 Per Dozen.....\$6.50

Oval

Made in No. 00, No. 0 or No. 2 cuts.
 Per Dozen.....\$6.50

File Cards and Brushes

With Scorer.....per dozen

Colton's No. 10 File Cleaners

Steel back, frame, and face. Tempered steel wire bristles.

Furnished with soft steel tapered pick to remove any substance from file which does not quickly yield to the steel bristles.

No. 10.....per dozen \$12.00

Nicholson Spun Ferruled File Handles

No.	For Files In.	Per Doz.
00	16	\$1.80
0	14	1.60
1	12	1.40
2	10	1.20
3	8	1.00
4	6	.80

**Judd File Handles**

No.	1	2	3	4	5	6
Per Gross.....	\$3.50	4.00	4.50	4.80	5.30	5.60
Diam.....in.	$\frac{7}{8}$	1	$1\frac{1}{4}$	$1\frac{3}{8}$	$1\frac{1}{2}$	$1\frac{1}{2}$
Length.....in.	$3\frac{3}{4}$	$4\frac{1}{4}$	$4\frac{3}{4}$	$4\frac{3}{4}$	$4\frac{3}{4}$	$5\frac{3}{4}$
No. in Box.....	72	72	72	36	36	36

**Lutz File Handles**

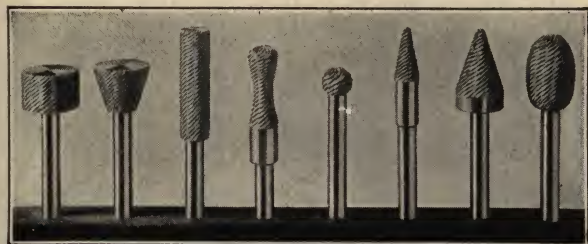
No.	1	2	3	4	5
Per Dozen.....	\$.90	1.00	1.20	1.40	1.60
Length.....in.	4	$4\frac{1}{2}$	$4\frac{7}{8}$	$5\frac{1}{2}$	6
Diameter.....in.	1	$1\frac{3}{8}$	$1\frac{5}{8}$	$1\frac{7}{8}$	$1\frac{7}{8}$
For Files.....in.	3 to 6	6 to 8	8 to 12	12 to 16	16 to 20

Kaalot Composition Fibre File Handles

Made from composition fibre strips, with a ferrule inserted $\frac{1}{2}$ inch.

No.	Lgth In.	Thick ness In.	Size File In.	Per Dozen	PRICE Per Gross
1	3	$\frac{3}{4}$	3 to 5	\$.84	\$10.00
2	$3\frac{1}{2}$	$\frac{7}{8}$	6 " 8	.96	11.50
3	4	1	9 " 10	1.14	13.65
4	$4\frac{1}{2}$	$1\frac{1}{8}$	11 " 12	1.32	15.75
5	5	$1\frac{1}{4}$	13 " 14	1.50	18.00
6	$5\frac{1}{2}$	$1\frac{3}{8}$	15 and larger	1.68	20.10

Ford Rotary Files



No. 1 No. 2 No. 3 No. 4 No. 5 No. 6 No. 7 No. 8

No.	Cut Smooth Each	Cut Fine Each	Cut Coarse Each	Cut Extra Coarse Each	Diam. File In.	Length Body In.	Diam. Shank In.	Length Over All In.
1	\$2.70	\$2.25	\$1.80	\$1.80	3/4	1 1/2	1/4	2 1/8
2	2.70	2.25	1.80	1.80	3/4	5/8	1/4	2 1/4
3	2.25	1.90	1.50	1.50	3/8	1 1/2	1/4	2 3/4
4	2.25	1.90	1.50	1.50	3/8	1 1/2	1/4	2 1/2
5	2.10	1.80	1.40	1.40	3/8	3/8	1/4	2 1/4
6	2.10	1.80	1.40	1.40	5/16	1 1/4	1/4	2 3/4
7	2.55	2.10	1.70	1.70	5/8	1	1/4	2 3/4
8	2.70	2.25	1.80	1.80	5/8	1	1/4	2 5/8

No. 501 Sets

Set consists of files Nos. 1 to 8, inclusive.

No. 501, Cut Smooth.....	per set	\$19.00
No. 501, Cut Fine.....	per set	15.90
No. 501, Cut Coarse.....	per set	12.75
No. 501, Cut Extra Coarse.....	per set	12.75

Heller Adjustable Flexible File Holders

Light weight. Made of aluminum. Can be used on 12 or 14-in. Genuine Vixen Files; easily adjusted for curving file either outward (convex) or inward (concave).



Per Dozen, Handle Only.... \$36.00

Diamond Hand Tools



Dresses Wheels	No.	Diam., In.	Each	Dresses Wheels	No.	Diam., In.	Each	Dresses Wheels	No.	Diam., In.	Each
74A	6	\$5.00		73A	8 to 10	\$10.00		72A	12 to 16	\$20.00	
74B	6 to 8	6.00		73B	10 to 12	15.00		72B	16 to 24	25.00	

Desmond Diamo-Carbo Grinding Wheel Dressers

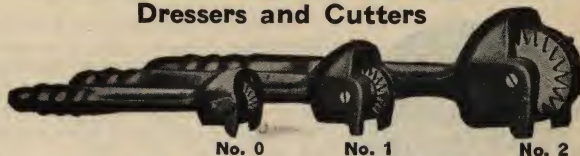


The dresser consists of a steel tube filled with an abrasive of such intense hardness that it will cut and dress any grinding wheel except the hard grade or the extremely coarse and large wheels used for grinding castings. Abrasive wears away slowly.

No.	Each	Diam. In.	Lgth. In.	No.	Each	Diam. In.	Lgth. In.
* 3	\$3.50	5/8	10	† 9	\$4.00	3/8	12
* 5	4.00	5/8	12	† 11	3.50	1/4	12
* 00	12.00	1 3/8	12	† 12	4.00	1/4	12
† 8	3.50	3/8	10	..	..	..	..

*For general use. **For large wheels. †For small wheels.

Desmond-Huntington Grinding Wheel Dressers and Cutters



Nos. 0, 1 and 2 Style
Nos. 0, 1 and 2 Stag Tooth Style

No. 0. This dresser should not be used on wheels over 10 inches in diameter or 2-inch face. Hooded, with 2 Sets of Cutters.....each \$.75 Plain, with 2 Sets of Cutters.....each .75 Long Tooth, Milled Cutter, 1 1/4-In.....per doz. sets 1.00 Thin Gage Dresser Cutters, 1 1/4-In.....per doz. sets 2.50 Paragon or Bushed Cutters, 1 1/4-In.....per doz. sets 1.25

No. 1. For Wheels from 10 to 16 inches in diameter and with a face from 2 to 3 inches in width.

Hooded, Complete.....each \$1.50 Huntington Cutters, 1 1/2-In. Diam.....per doz. sets 2.00

No. 2. Used on wheels over 16 inches in diameter or 3-inch face.

Hooded, Complete.....each \$2.50 Huntington Cutters, 2 3/8-Inch Diam.....per doz. sets 6.00

No. 21. Uses a double set of No. 1 cutters and is for medium size wheels of wide face.

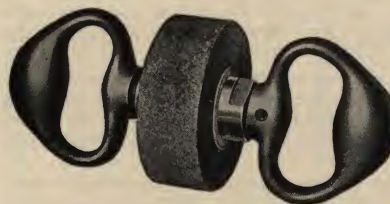
Hooded, Complete.....each \$1.75 Huntington Cutters (Double Set of No. 1 Cutters).....per doz. sets 4.00

No. 5H. Huntington Cutters, 1 5/8-Inch Diam., 3/8-Inch Hole.....per doz. sets 3.00

Special Huntington Cutters, 1 5/8-Inch Diam., 1/2-Inch Hole.....per doz. sets 3.00

Stag tooth cutters can be furnished for Nos. 0, 1 and 2; at same prices as corresponding Huntington sizes.

Desmond Crackerjack Ball Bearing Grinding Wheel Dressers



Will true up a square edge or turn a bevel or V edge without breaking or chipping the wheel.

The action of this dresser is due to the cutting effect of one abrasive wheel on another when their axes are at an angle of from 20 to 45 degrees. Held in the hands and does not require a tool rest for its use. Handles protect the knuckles and give a firm grip. Uses a full size 4-inch diameter abrasive wheel.

Complete.....each \$4.50 Extra Abrasive Wheels, Special Grade..... 1.25

Carborundum Brand Sticks

For Truing and Dressing Grinding Wheels



These sticks quickly free the grinding wheel face, leaving it sharp and clean cutting and can be used in shaping the wheel to any desired bevel or truing. Furnished in 16 and 20 grit.

No.....	346	214	212
Size.....inches	9x1x1	6x2x2	8x2x1
Price.....per dozen	\$9.60	13.20	10.20

Sterling Grinding Wheels



In the manufacture of Sterling Grinding Wheels only the electric furnace products, Sterlith and Sterbon, are used. Sterlith is a trade name for crystalline alumina (Al_2O_3) and Sterbon for carbide of silicon (SiC).

These abrasives are vastly different in structure, chemical composition and in character of fracture of the grain. Both materials are hard, sharp and

tough. As the grains are broken in use they leave irregular fractures or cutting edges that make them ideal abrasives for all classes of work.

Types of Abrasive Grains

Sterlith (crystalline alumina) possesses a degree of toughness that makes it best suited for grinding steel, annealed malleables and materials of high tensile strength.

WW-Sterlith (crystalline alumina) is more friable than regular Sterlith, therefore superior on substances of extreme hardness particularly if the grinding surface of contact is large. Recommended for such work as ball races, gear and milling cutters, reamers, hardened steel dies, internal grinding, high speed steel surfacing and cylindrical grinding.

Sterbon (carbide of silicon) combines hardness and sharpness to make it ideal for use on cast and chilled iron, unannealed malleables, brass, aluminum and other materials of low tensile strength.

Classification of Wheels by Process of Manufacture
(Types of Bonds Used)

VITRIFIED.—The vitrified process is the most important. It permits of a greater range of grades or hardness, and is therefore suited for a greater variety of work. The majority of Sterling Wheels are made by the vitrified process as they are considered better for most operations.

SILICATE.—The chief bonding agent of silicate wheels is silicate of soda. The bond sets at a comparatively low temperature so that brass wire webs may be inserted if desired. The result is a softer bonded wheel than the vitrified and one that gives good results on tool and knife grinding, saw gumming, etc. Wheels over 30 inches are made by the silicate process.

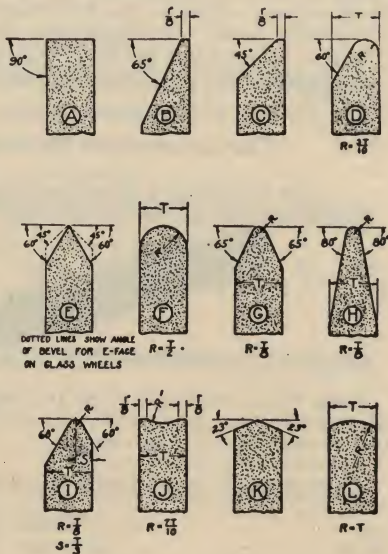
SHELLAC.—By this process smaller wheels can be made as thin as $\frac{1}{32}$ inch. Valuable for operations such as grinding gear teeth, woodworking tools, cutters, slotting. They are also used extensively for cutting off bar and tube stock, carbon, etc.

RESINOID.—Resinoid wheels possess considerably more strength than elastic wheels and for certain operations are more satisfactory.

The shapes of faces or edges of grinding wheels most commonly used are those shown in the illustration at the right.

These special shapes are particularly used for gumming saws, grinding moulding cutters, bits, etc.

If no shape of face is specified, the square face, A, is furnished.



Sterling Grinding Wheels

Revolutions per Minute for Various Diameters of Grinding Wheels to Give Peripheral Speed in Feet per Minute as Indicated

Wheel Diam., In.	PERIPHERAL SPEED, FEET PER MINUTE					
	4000	4500	5000	5500	6000	6500
1	15279	17189	19098	21008	22918	24828
2	7639	8594	9549	10504	11459	12414
3	5093	5729	6366	7003	7639	8276
4	3820	4297	4775	5252	5729	6207
5	3056	3438	3820	4202	4584	4966
6	2546	2865	3183	3501	3820	4138
7	2183	2455	2728	3001	3274	3547
8	1910	2148	2387	2626	2865	3103
10	1528	1719	1910	2101	2292	2483
12	1273	1432	1591	1751	1910	2069
14	1091	1228	1364	1500	1637	1773
16	955	1074	1194	1313	1432	1552
18	849	955	1061	1167	1273	1379
20	764	859	955	1050	1146	1241
22	694	781	868	955	1042	1128
24	637	716	796	875	955	1034
26	588	661	734	808	881	955
28	546	614	682	750	818	887
30	509	573	637	700	764	828
32	477	537	597	656	716	776
34	449	505	562	618	674	730
36	424	477	530	583	637	690

Wheel Diam., In.	PERIPHERAL SPEED, FEET PER MINUTE					
	7000	7500	8000	8500	9000	9500
1	26737	28647	30558	32467	34377	36287
2	13368	14328	15278	16238	17188	18143
3	8913	9549	10186	10822	11459	12115
4	6685	7162	7640	8116	8595	9072
5	5348	5730	6112	6494	6876	7258
6	4456	4775	5092	5411	5729	6048
7	3820	4092	4366	4638	4911	5183
8	3342	3580	3820	4058	4297	4535
10	2674	2865	3056	3247	3438	3629
12	2228	2386	2546	2705	2864	3023
14	1910	2046	2182	2319	2455	2592
16	1672	1791	1910	2029	2149	2268
18	1485	1591	1698	1803	1910	2016
20	1337	1432	1528	1623	1719	1814
22	1215	1302	1388	1476	1562	1649
24	1115	1194	1274	1353	1433	1512
26	1028	1101	1176	1248	1322	1395
28	955	1023	1092	1159	1228	1296
30	891	955	1018	1082	1146	1210
32	836	895	954	1014	1074	1134
34	786	843	898	955	1011	1067
36	742	795	848	902	954	1007

NOTE.—Centrifugal force, which is the force that tends to rupture a given wheel when overspreading, increases as the square of the velocity of that wheel. For example the centrifugal force in a wheel running at 5500 surface feet per minute is 49 per cent greater than in the same wheel running at 4500 surface feet per minute, although the speed is actually only 22 per cent greater.

Rules for Obtaining Surface Speeds

To find the surface speed in feet per minute of a wheel, multiply the circumference in feet by the number of revolutions it makes per minute.

The rule for finding the number of revolutions of the wheel spindle, being given the surface speed and diameter of the wheel—divide the surface speed in feet per minute by the circumference in feet.

Sterling Grade List

The degree of hardness of the wheels is termed the grade. The various grades are produced by changing the proportion and kind of bonding materials that hold the grains together.

Wheels are graded by use of letters E to Z. E is softest wheel made and Z hardest. The following scale will give an idea of the various degrees of hardness produced.

Soft									
Vitrified and Silicate Bonds.....	E	F	G	H	I				
Resinoid Bonds.....					..	G	H	I	
Medium									
Vitrified and Silicate Bonds..	J	K	L	M	N	O	P		
Resinoid Bonds.....					J	K	L	M	N
Hard									
Vitrified and Silicate Bonds..	Q	R	S	T	U	W	Z		
Resinoid Bonds.....					..	O	P	Q	..

Standard Straight Grinding Wheels

Vitrified and Silicate Bonds—Each

Diam. In.	THICKNESS OF WHEELS, INCHES							
	1/8	1/4	3/8	1/2	5/8	3/4	7/8	1
1	\$.45	\$.45	\$.50	\$.50	\$.55	\$.55	\$.60	\$.60
1 1/2	.50	.50	.55	.55	.60	.60	.65	.70
2	.60	.60	.65	.70	.75	.75	.80	.85
2 1/2	.75	.75	.80	.85	.90	.95	1.00	1.05
3	.90	.90	.95	1.05	1.10	1.20	1.25	1.30
3 1/2	1.70	1.40	1.50	1.60	1.70	1.80	1.90	2.00
4	1.85	1.55	1.65	1.75	1.90	2.05	2.20	2.35
4 1/2	2.15	1.75	1.90	2.05	2.20	2.40	2.60	2.80
5	2.40	2.10	2.30	2.50	2.70	2.90	3.10	3.30
6	2.85	2.50	2.75	3.00	3.25	3.50	3.75	4.00
7	3.60	2.90	3.25	3.60	3.95	4.30	4.60	4.90
8	4.40	3.45	3.90	4.30	4.70	5.15	5.55	6.00
9	....	4.05	4.60	5.15	5.65	6.15	6.65	7.15
10	....	4.75	5.40	6.05	6.65	7.25	7.85	8.45
12	....	6.30	7.20	8.10	8.95	9.80	10.65	11.50
14	....	....	....	10.20	11.50	12.80	14.10	15.40
16	....	....	....	....	....	16.60	18.30	20.00
18	....	....	....	....	....	....	....	25.20
20	....	....	....	....	....	....	....	30.95

Diam. In.	THICKNESS OF WHEELS, INCHES							
	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4	3
1	\$.75	\$.90	\$ 1.00	\$ 1.15	\$ 1.30	\$ 1.45		
1 1/2	.85	1.05	1.20	1.35	1.50	1.70		
2	1.05	1.25	1.45	1.65	1.85	2.05		
2 1/2	1.30	1.55	1.80	2.05	2.25	2.50		
3	1.60	1.90	2.20	2.50	2.80	3.10		
3 1/2	2.30	2.65	2.95	3.25	3.55	3.90		
4	2.70	3.10	3.45	3.80	4.15	4.55		
4 1/2	3.20	3.65	4.05	4.45	4.90	5.30		
5	3.80	4.25	4.75	5.20	5.70	6.15		
6	4.60	5.25	5.90	6.55	7.20	7.85		
7	5.70	6.55	7.40	8.25	9.05	9.90		
8	7.00	8.00	9.10	10.15	11.20	12.30		
9	8.40	9.75	11.05	12.35	13.65	15.00		
10	10.05	11.65	13.20	14.80	16.40	18.00		
12	13.75	15.95	18.20	20.45	22.65	24.90		
14	18.40	21.35	24.30	27.25	30.20	33.15		
16	23.80	27.60	31.40	35.20	38.95	42.75		
18	29.90	34.65	39.40	44.10	48.85	53.55		
20	36.75	42.55	48.35	54.15	59.90	65.70		
22	44.25	51.35	58.45	65.55	72.65	79.75		
24	52.55	61.00	69.55	78.10	86.60	95.15		
26	64.30	72.25	82.35	92.45	102.55	112.65		
28	77.00	84.40	96.15	107.95	119.70	131.50		
30	90.65	97.45	111.05	124.60	138.20	151.75		
32	106.50	111.40	126.90	142.40	157.90	173.40		
34	122.45	126.25	143.80	161.35	178.90	196.50		
36	139.85	145.00	164.60	184.25	203.85	223.50		

Diam. In.	THICKNESS OF WHEELS, INCHES							
	2 3/4	3	3 1/4	3 1/2	3 3/4	4		
1	\$ 1.55	\$ 1.70	\$ 2.00	\$ 2.30	\$ 2.60	\$ 2.90		
1 1/2	1.85	2.00	2.30	2.60	2.90	3.20		
2	2.25	2.45	2.75	3.05	3.35	3.65		
2 1/2	2.75	3.00	3.30	3.60	3.90	4.20		
3	3.40	3.70	4.00	4.30	4.60	4.90		
3 1/2	4.20	4.50	4.80	5.15	5.45	5.75		
4	4.90	5.25	5.60	6.00	6.35	6.70		
4 1/2	5.70	6.15	6.55	6.95	7.40	7.80		
5	6.65	7.10	7.60	8.05	8.55	9.00		
6	8.50	9.20	9.85	10.50	11.15	11.80		
7	10.75	11.60	12.45	13.30	14.15	15.00		
8	13.35	14.40	15.50	16.55	17.60	18.65		
9	16.30	17.60	18.90	20.25	21.55	22.85		
10	19.60	21.15	22.75	24.35	25.95	27.50		
12	27.15	29.35	31.60	33.80	36.05	38.30		
14	36.10	39.05	42.05	45.00	47.95	50.90		
16	46.55	50.30	54.10	57.90	61.70	65.45		
18	58.30	63.05	67.75	72.50	77.25	81.95		
20	71.50	77.25	83.05	88.85	94.65	100.40		
22	86.85	93.95	101.05	108.15	115.25	122.35		
24	103.70	112.25	120.75	129.30	137.85	146.40		
26	122.70	132.80	142.90	153.00	163.10	173.20		
28	143.25	155.05	166.80	178.60	190.35	202.15		
30	165.35	178.90	192.50	206.05	219.65	233.20		
32	188.95	204.45	219.95	235.45	250.95	266.45		
34	214.05	231.60	249.15	266.70	284.25	301.85		
36	243.10	262.70	282.35	301.95	321.55	341.20		

Diameters and thicknesses intermediate to those shown above take price of next greater diameter or thickness.

Diameters or thicknesses less than those shown above take price of smallest diameter or thickness listed.

Standard Straight Grinding Wheels

Resinoid Bonded

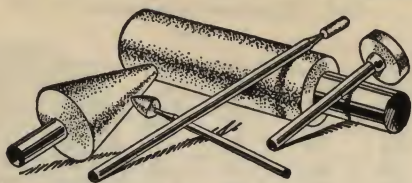
Each

Diameter Inches	THICKNESS OF WHEEL, INCHES							
	3/32	1/8	1/4	3/8	1/2	5/8	3/4	
1	\$.55	\$.60	\$.65	\$.70	\$.75	\$.80	\$.85	
1 1/2	.60	.65	.70	.80	.85	.90	.95	
2	.65	.70	.75	.90	.95	1.00	1.05	
2 1/2	.70	.80	.85	1.00	1.05	1.10	1.15	
3	.80	.90	1.00	1.15	1.20	1.25	1.35	
3 1/2	.90	1.00	1.15	1.30	1.40	1.50	1.65	
4	1.00	1.10	1.30	1.45	1.60	1.75	1.95	
4 1/2	1.10	1.20	1.45	1.70	1.85	2.05	2.25	
5	1.20	1.30	1.60	1.95	2.15	2.35	2.55	
6	1.30	1.45	1.80	2.30	2.55	2.80	3.05	
7	1.50	1.65	2.10	2.70	3.00	3.30	3.60	
8	1.70	1.90	2.45	3.15	3.60	4.05	4.50	
9	2.00	2.25	2.85	3.65	4.25	4.80	5.40	
10	2.45	2.70	3.45	4.45	5.20	5.95	6.70	
12	3.35	3.70	4.90	5.90	6.90	7.90	8.90	
14	4.45	4.95	6.45	7.55	8.70	9.90	11.40	
16	....	6.25	8.00	9.60	11.15	13.65	16.15	
18	....	8.00	9.50	12.00	14.50	18.00	21.50	
20	....	....	12.50	15.50	19.00	23.00	27.00	
22	....	....	15.50	19.00	23.50	28.00	32.50	
24	....	....	18.50	23.00	28.00	33.50	39.00	
26	....	....	....	....	33.00	39.00	45.50	
28	....	....	....	....	38.00	45.00	52.50	
30	....	....	....	....	44.00	52.00	60.00	

Diameter Inches	THICKNESS OF WHEEL, INCHES							
	7/8	1	1 1/4	1 1/2	1 3/4	2	2 1/4	
1 1/2	\$.90	\$.95	\$ 1.00	\$ 1.10	\$ 1.20	\$ 1.30	....
2	1.00	1.05	1.10	1.20	1.30	1.40	....
2 1/2	1.10	1.15	1.25	1.35	1.45	1.55	\$ 1.65	
3	1.20	1.25	1.40	1.50	1.70	1.85	2.00	
3 1/2	1.45	1.55	1.70	1.80	2.00	2.15	2.35	
4	1.75	1.85	2.05	2.25	2.45	2.65	2.90	
4 1/2	2.10	2.25	2.50	2.75	3.00	3.25	3.55	
5	2.50	2.75	3.05	3.35	3.65	3.95	4.30	
6	2.95	3.35	3.70	4.05	4.40	4.75	5.15	
7	3.55	4.05	4.50	5.05	5.70	6.25	6.80	
8	4.25	4.90	5.60	6.50	7.30	8.10	8.80	
9	5.25	6.00	6.90	8.00	9.00	10.00	11.00	
10	6.45	7.40	8.55	9.90	11.15	12.40	13.65	
12	7.90	9.10	10.50	12.10	13.60	15.10	16.70	
14	10.20	11.80	13.80	16.00	18.10	20.20	22.50	
16	13.60	15.75	18.60	21.65	24.60	27.00	30.00	
18	19.10	22.00	25.00	28.00	31.00	34.00	37.50	
20	25.00	28.50	32.00	35.50	39.50	44.00	48.50	
22	31.00	35.00	39.00	43.50	49.00	54.50	60.00	
24	37.00	42.00	47.00	52.00	59.00	66.00	72.00	
26	44.00	49.00	56.00	63.00	70.00	78.00	86.00	
28	52.00	58.00	67.00	75.00	83.00	93.00	102.00	
30	60.00	67.00	77.00	86.00	97.00	108.00	118.00	
32	68.00	76.00	88.00	100.00	111.00	122.00	134.00	
34	....	88.00	103.00	116.00	131.00	144.00	158.00	
36	....	101.00	118.00	134.00	151.00	167.00	182.00	
38	....	114.00	133.00	152.00	171.00	190.00	208.00	

Diameter Inches	THICKNESS OF WHEEL, INCHES							
	2½	2¾	3	3¼	3½	3¾	4	
2	\$1.75	\$1.85	\$1.95					
2 ½	2.15	2.30	2.45					
3	2.55	2.75	2.95	\$3.15	\$3.35	\$3.55	\$3.75	
3 ½	3.15	3.40	3.65	3.90	4.15	4.40	4.65	
4	3.85	4.15	4.45	4.75	5.05	5.35	5.65	
4 ½	4.65	5.00	5.35	5.70	6.05	6.40	6.75	
5	5.55	5.95	6.35	6.75	7.15	7.55	7.95	
6	7.35	7.90	8.65	9.25	9.85	10.45	11.05	
7	9.50	10.20	11.10	11.85	12.65	13.45	14.25	
8	12.00	13.00	14.00	15.00	16.00	17.00	18.00	
9	14.90	16.15	17.40	18.65	19.90	21.15	22.40	
10	18.30	19.90	21.50	23.10	24.70	26.30	27.90	
12	24.80	27.10	29.30	31.50	33.70	36.00	38.20	
14	32.60	35.20	37.70	40.30	43.20	46.20	49.20	
16	41.00	44.50	48.00	51.50	55.00	58.50	62.00	
18	53.00	57.50	62.00	66.50	71.00	75.50	80.00	
20	65.50	71.00	76.50	82.00	87.50	93.00	98.50	
22	78.00	85.00	92.00	99.00	106.00	113.00	120.00	
24	94.00	102.00	110.00	118.00	126.00	134.00	142.00	
26	111.00	120.00	128.00	137.00	147.00	157.00	167.00	
28	129.00	139.00	150.00	160.00	171.00	181.00	192.00	
30	146.00	158.00	170.00	182.00	194.00	205.00	216.00	
32	172.00	186.00	200.00	214.00	228.00	242.00	253.00	
34	198.00	214.00	229.00	245.00	261.00	276.00	292.00	
36	226.00	244.00	262.00	280.00	298.00	316.00	334.00	

Chicago Mounted Wheels



The use of grinding wheels permanently mounted on individual shanks is widespread and rapidly increasing. Chicago Wheels are designed for both precision and offhand grinding. They are made as nearly as possible to meet working conditions as to speed, etc., and on a shank to fit the chuck on any type of equipment.

These wheels on shanks are used with certain fixed or rigid machines, as for internal, precision grinding, and also with portable electric, pneumatic and flexible shaft equipment offered in almost endless variety. They are available in any grade or grain, any abrasive material and several bonds from stock or to order, to meet differences in material ground, varying speeds, methods of application to work, etc. Special sizes and shapes can be supplied promptly to order.

When ordering state wheel number, shank size (if other than listed), material to be ground or cut, and normal working rim speed.

Wheels with a vitrified bond will be furnished unless otherwise specified.

Dimensions and Prices

Shape	Diam. In.	Length In.	Wheel No.	Shank $\frac{1}{8} \times 1\frac{1}{2}$ In. Each	Wheel No.	Shank $\frac{1}{4} \times 1\frac{1}{2}$ In. Each	Shape	Diam. In.	Length In.	Wheel No.	Shank $\frac{1}{8} \times 1\frac{1}{2}$ In. Each	Wheel No.	Shank $\frac{1}{4} \times 1\frac{1}{2}$ In. Each
	$\frac{1}{8}$	$\frac{1}{8}$	5W143	\$.50	.....	...		$\frac{1}{2}$	$\frac{3}{8}$	.....	...	A35	\$.80
	$\frac{1}{8}$	$\frac{1}{4}$	5W144	.50	.....	...		$1\frac{1}{2}$	$\frac{3}{8}$	.....	...	A34	.95
	$\frac{1}{8}$	$\frac{3}{8}$	5W145	.55	.....	...		$\frac{3}{4}$	$\frac{5}{8}$	.....	...	A22	.80
	$\frac{3}{16}$	$\frac{1}{4}$	5W152	.50	.....	...		1	$1\frac{5}{8}$	.....	...	A21	.90
	$\frac{3}{16}$	$\frac{3}{8}$	5W153	.55	.....	...		$\frac{1}{8}$	$\frac{5}{16}$	5B46	\$.70	.....	....
	$\frac{1}{4}$	$\frac{1}{4}$	5W160	.50	8W160	\$.50		$\frac{3}{16}$	$\frac{5}{16}$	5B45	.70	.....	....
	$\frac{1}{4}$	$\frac{1}{2}$	5W162	.55	8W162	.55		$\frac{1}{4}$	$\frac{5}{16}$	5B43	.70	.....	....
	$\frac{3}{16}$	$\frac{1}{4}$	5W163	.55	8W163	.55		$\frac{3}{4}$	$\frac{5}{8}$	5B53	.75	.....	....
	$\frac{3}{16}$	$\frac{1}{2}$	5W167	.50	8W167	.50		$\frac{1}{8}$	$\frac{1}{4}$	5B55	.65	.....	....
	$\frac{5}{16}$	$\frac{3}{8}$	5W169	.55	8W169	.55		$\frac{3}{8}$	$\frac{3}{4}$	5B52	.75	8B52	.75
	$\frac{5}{16}$	$\frac{1}{2}$	5W170	.55	8W170	.55		$1\frac{1}{16}$	$1\frac{3}{4}$	.....	...	A11	1.40
	$\frac{3}{8}$	$\frac{1}{4}$	5W174	.50	8W174	.50		$1\frac{1}{16}$	$1\frac{1}{4}$	.....	...	A12	1.10
	$\frac{3}{8}$	$\frac{3}{8}$	5W175	.55	8W175	.55		$\frac{1}{8}$	...	5B124	.65	.....	....
	$\frac{3}{8}$	$\frac{1}{2}$	5W176	.55	8W176	.55		$\frac{1}{4}$	$\frac{3}{16}$	5B63	.65	.....	....
	$\frac{3}{8}$	$\frac{3}{4}$	5W177	.60	8W177	.60		$\frac{1}{2}$	$\frac{3}{8}$	5B62	.70	8B62	.70
	$\frac{3}{8}$	1	5W178	.65	8W178	.65		$\frac{3}{16}$	...	5B123	.65	.....	....
	$\frac{1}{2}$	$\frac{1}{4}$	5W183	.50	8W183	.50		1	...	5B121	.70	8B121	.70
	$\frac{1}{2}$	$\frac{3}{8}$	5W184	.55	8W184	.55		...	...	.....	...	A25	.90
	$\frac{1}{2}$	$\frac{1}{2}$	5W185	.55	8W185	.55		$\frac{1}{2}$	$\frac{1}{8}$	5B72	.65	.....	....
	$\frac{5}{8}$	$\frac{1}{4}$	5W192	.55	8W192	.55		$1\frac{1}{4}$	$\frac{1}{4}$	.....	...	A37	.85
	$\frac{5}{8}$	$\frac{3}{8}$	5W193	.60	8W193	.60							
	$\frac{5}{8}$	$\frac{1}{2}$	5W194	.60	8W194	.60							
	$\frac{3}{4}$	$\frac{1}{4}$	5W201	.55	8W201	.55							
	$\frac{3}{4}$	$\frac{3}{4}$	5W204	.65	8W204	.65							
	$\frac{3}{4}$	1	5W205	.70	8W205	.70							
	$\frac{3}{4}$	$1\frac{1}{2}$	.....	...	7W207	Shank $\frac{1}{4} \times 1\frac{1}{2}$ In. Each \$1.00							
	$\frac{3}{4}$	2	.....	...	7W208	1.25							
	$\frac{7}{8}$	$\frac{1}{8}$	5W211	.60	7W211	.60							
	$\frac{7}{8}$	$\frac{1}{4}$	5W212	.60	7W212	.60							
	1	$\frac{1}{2}$	5W218	.65	7W218	.65							
	1	$\frac{3}{4}$	5W219	.70	7W219	.70							
	1	1	.....	...	7W220	.75							
	$1\frac{1}{4}$	$\frac{1}{4}$	.....	...	7W225	.70							
	$1\frac{1}{4}$	$\frac{3}{8}$	.....	...	7W226	.75							
	$\frac{1}{4}$	$\frac{5}{16}$	5B136	\$.55	8B136	\$.55							
	$\frac{1}{4}$	$\frac{1}{2}$	5B135	.55	8B135	.55							
	$\frac{5}{16}$	$\frac{3}{8}$	5B134	.55	8B134	.55							
	$\frac{3}{16}$	$\frac{3}{16}$	5B93	.65	.....	...					
	$\frac{1}{4}$	$\frac{1}{4}$	5B92	.65	.....	...					
	$\frac{1}{2}$	$\frac{5}{8}$	5B91	.75	8B91	.75							
	1	$1\frac{1}{4}$	.....	...	A2	1.15							

The numeral 5 preceding the letter W designates mandrel $\frac{1}{8}$ -inch diameter, $1\frac{1}{2}$ inches long. The numeral 7 preceding the letter W designates mandrel $\frac{1}{4}$ -inch diameter, 1 inch long. The numeral 8 preceding the letter W designates mandrel $\frac{1}{4}$ -inch diameter, $1\frac{1}{2}$ inches long. Mounted wheels from No. W160 and up can be mounted on mandrels $\frac{1}{4}$ -inch diameter, $2\frac{5}{8}$ inches long at an extra cost of 5 cents each.



Set No. 3
(About $\frac{1}{2}$ Actual Size)

furnished with $\frac{3}{16} \times 1\frac{1}{2}$ -inch or $\frac{1}{8} \times 2\frac{5}{8}$ -inch shanks.

Orders should state set number, speed at which wheels will be used, the material which they are to grind, and make and style of equipment with which they are to be used.

No. 3, Consists of 15 Wheels on Shanks in a Box, per set \$9.65

Write for Catalog Giving Complete Range of Sizes and Shapes

Wheels in Sets

These handy sets comprise shapes and sizes of wheels which thousands of users have found most practical and useful. The wheels are regularly furnished mounted on $\frac{1}{8}$ -inch diameter steel shanks projecting $1\frac{1}{4}$ inches but also can be



Norton India Bench Stones

For use on lathe and planer tools and scraper blades. Also produce oilstoned finishes on woodworking tools.

Fine No.	Medium No.	Coarse No.	Each	Size Inches	Std. Pkg.	Wt. Lb.
FB14	MB14	CB14	\$.50	4x1 x 1/4	6	1
FB24	MB24	CB24	.55	4x1 x 1/2	6	1 1/2
FB124	MB124	.....	.70	4x1 3/4 x 1/2	6	2 1/4
FB35	MB35	.....	.85	5x2 x 5/8	6	4
FB26	MB26	.....	.75	6x1 1/2 x 1/2	6	2 1/2
FB36	MB36	.....	.95	6x2 x 5/8	6	4 3/4
FB6	MB6	CB6	1.15	6x2 x 1	6	7 1/4
FB7	MB7	CB7	1.25	7x2 x 1	6	8 1/2
FB48	MB48	.....	1.35	8x2 x 3/4	6	8
FB8	MB8	CB8	1.50	8x2 x 1	6	10

Norton India Combination Stones



Coarse and fine grits vitrified into a single stone. Coarse side for dull tools; fine side for a finished edge.

Made from Norton Alundum abrasive (aluminum oxide).

No.	Each	Size Inches	Std. Pkg.	Wt. Lb.
IB64	\$1.25	4x1 Round	6	8
IB134	.85	4x1 3/4 x 5/8	6	2 1/2
IB45	1.00	5x2 x 3/4	6	3 1/2
IB6	1.25	6x2 x 1	6	7 1/4
IB7	1.50	7x2 x 1	6	8 1/2
IB8	1.75	8x2 x 1	6	10

Norton India Round Edge Slips



Produces oilstoned finishes on gouges, moulder knives, bead planers, and other tools and knives with curved edges.

Made from Norton Alundum abrasive (aluminum oxide).

Fine No.	Medium No.	Coarse No.	Each	Size Inches	Std. Pkg.	Wt. Lb.
FS14	MS14	CS14	\$.50	4 x1 x 7/16 x 3/16	6	3/4
FS24	MS24	CS24	.65	4 1/2 x 1 3/4 x 1/4 x 1/16	6	3/4
FS34	MS34	CS34	.65	4 1/2 x 1 3/4 x 3/8 x 1/8	6	1 1/4
FS44	MS44	CS44	.65	4 1/2 x 1 3/4 x 1/2 x 3/16	6	1 3/4
FS15	MS15	CS15	.65	5 x1 x 3/16 x 3/32	6	1 1/2
FS54	MS54	CS54	.90	4 1/2 x 2 1/8 x 5/8 x 3/16	6	2 1/4
FS66	MS66	.....	1.15	6 x 2 1/4 x 3/4 x 3/8	6	4

Norton India Carving Tool Slips



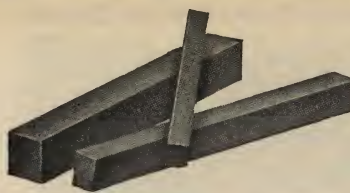
Special forms for producing an oilstoned finish on the various shaped knives and tools used by carvers of wood and ivory.

Dimensions, 2 1/4 x 7/8 x 3/16 inches.

Standard package, 6.

Weight, standard package, 3 ounces.

No.	MS12	MS22	MS32	MS42
Each.....	\$.50	.50	.50	.50



Norton India Square Files

For cleaning corners of dies where some stock is to be removed without scratching.

Fine No.	Medium No.	Coarse No.	Each	Size Inches	Std. Pkg.	Wt. Lb.
FF14	MF14	CF14	\$.40	4x 1/4	12	5
FF24	MF24	CF24	.45	4x 3/16	12	8
FF34	MF34	CF34	.45	4x 3/8	12	10 1/2
FF44	MF44	CF44	.45	4x 1/2	12	20
FF36	MF36	CF36	.60	6x 3/8	12	16
FF46	MF46	CF46	.60	6x 1/2	12	30
FF56	MF56	CF56	.65	6x 3/4	6	20
FF66	MF66	CF66	.65	6x 3/4	6	28
FF76	MF76	CF76	.70	6x1	6	56

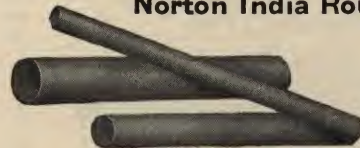
Norton India Triangular Files



For cleaning corners of dies where some stock is to be removed without scratching.

Fine No.	Medium No.	Coarse No.	Each	Size Inches	Std. Pkg.	Wt. Oz.
FF114	MF114	CF114	\$.50	4x 1/4	12	3
FF124	MF124	CF124	.55	4x 3/16	12	4
FF134	MF134	CF134	.55	4x 3/8	12	5
FF144	MF144	CF144	.55	4x 1/2	12	9
FF136	MF136	CF136	.70	6x 3/8	12	8
FF146	MF146	CF146	.70	6x 1/2	12	14
FF156	MF156	CF156	.75	6x 3/4	6	10
FF166	MF166	CF166	.75	6x 3/4	6	16
FF176	MF176	CF176	.80	6x1	6	24

Norton India Round Files

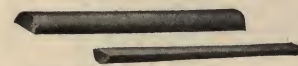


Used for lapping round holes and for stoning dies and cleaning moulds.

Used also on many curved edges.

Fine No.	Medium No.	Coarse No.	Each	Size Inches	Std. Pkg.	Wt. Oz.
FF214	MF214	CF214	\$.60	4x 1/4	12	4
FF224	MF224	CF224	.65	4x 3/16	12	6
FF234	MF234	CF234	.65	4x 3/8	12	9
FF244	MF244	CF244	.65	4x 1/2	12	16
FF236	MF236	CF236	.80	6x 3/8	12	16
FF246	MF246	CF246	.80	6x 1/2	12	22
FF256	MF256	CF256	.85	6x 3/4	6	16
FF266	MF266	CF266	.85	6x 3/4	6	24
FF276	MF276	CF276	.90	6x1	6	32

Norton India Half Round Files



For tools or dies having both straight and curved edges.

Fine No.	Medium No.	Coarse No.	Each	Size Inches	Std. Pkg.	Wt. Oz.
FF314	MF314	CF314	\$.50	4x 1/4	12	3
FF324	MF324	CF324	.55	4x 3/16	12	4
FF334	MF334	CF334	.55	4x 3/8	12	5
FF344	MF344	CF344	.55	4x 1/2	12	9

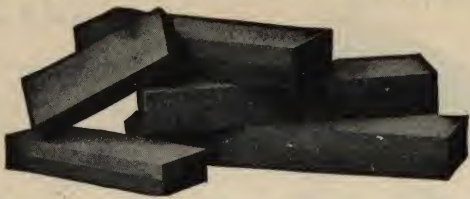
Norton India Taper Rounds and Triangles



For many different purposes in machine shops, tool and die works and wood-working plants.

Fine No.	Medium No.	Coarse No.	Each	Shape	Size Inches	Std. Pkg.	Wt. Oz.
FF644	MF644	CF644	\$.75	Round	4x 1/2 x 1/4	6	5
FF544	MF544	CF544	.75	Triangle	4x 1/2 x 1/4	6	3

Carborundum Brand Combination Stones



These stones are made one side coarse and one side fine grit.

Nos. 108 to 112 packed 6 in a box; Nos. 328 and 333, 1 in box.

No.	Each	Size Inches	No.	Each	Size Inches
108	\$1.75	8x2x1	112	\$.85	4x1 $\frac{3}{4}$ x $\frac{5}{8}$
109	1.25	6x2x1	328	2.25	8x3 x1
110	1.50	7x2x1	333	3.50	12x2 $\frac{1}{2}$ x1 $\frac{1}{2}$
111	1.00	5x2x $\frac{3}{4}$	...	...	.....

Carborundum Brand Sharpening Stones

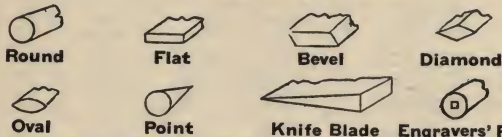


Packed 6 in a box.

	No.		Each	Length Inches	Width Inches	Thickness Inches
Fine	Medium	Coarse				
115	116	117	\$1.50	8	2	1
118	119	120	1.35	8	2	$\frac{3}{4}$
121	122	123	1.15	6	2	1
124	125	126	.95	6	2	$\frac{5}{8}$
130	131	...	.75	6	1 $\frac{1}{2}$	$\frac{1}{2}$
133	134	135	1.25	7	2	1
136	137	...	.85	5	2	$\frac{5}{8}$
142	143	144	.70	4	1 $\frac{3}{4}$	$\frac{1}{2}$
145	146	147	.50	4	1	$\frac{1}{4}$

Norton Hard Arkansas Files

Miscellaneous Files



Used where the work calls for an accurate finish.

No.	Each	Shape	Size Inches	Std. Pkg.	Wt. Oz.
HF813	\$.60	Round.....	3-3 $\frac{1}{2}$ x $\frac{1}{4}$ - $\frac{3}{16}$	12	5
HF823	.40	Flat.....	3-3 $\frac{1}{2}$ x $\frac{3}{8}$ - $\frac{1}{2}$ x $\frac{1}{8}$ - $\frac{3}{16}$	12	4
HF833	.50	Bevel.....	3-3 $\frac{1}{2}$ x $\frac{3}{8}$ - $\frac{1}{2}$ x $\frac{1}{8}$ - $\frac{3}{16}$	12	4
HF843	.60	Diamond.....	3-3 $\frac{1}{2}$ x $\frac{1}{2}$ x $\frac{3}{16}$ - $\frac{1}{4}$	12	4
HF853	.60	Oval.....	3-3 $\frac{1}{2}$ x $\frac{1}{2}$ x $\frac{3}{16}$ - $\frac{1}{4}$	12	4
HF863	.60	Point.....	3-3 $\frac{1}{2}$ x $\frac{1}{4}$ Base	12	2
HF873	.60	Knife Blade..	3-4 x $\frac{3}{4}$ -1x $\frac{1}{8}$ - $\frac{1}{4}$	12	10
AT17	.75	Engravers' Pencil.	7 Long. Stone $\frac{1}{8}$ Sq.	12	6

Exact sizes, within dimensions shown, 25 per cent extra.
Exactly 4 inches long, 50 per cent extra.

Norton Hard Arkansas Carving Tool Slips



A set of these slips enables a wood or ivory carver to keep all sizes and sweeps of straight and bent gouges in perfect condition.

No.	Each	Size Inches	Std. Pkg.	Wt. Oz.
AS12	\$.50	2 $\frac{1}{4}$ x $\frac{1}{8}$ x $\frac{3}{16}$	6	3 $\frac{1}{2}$
AS22	.50	2 $\frac{1}{4}$ x $\frac{1}{8}$ x $\frac{3}{16}$	6	3 $\frac{1}{2}$
AS32	.50	2 $\frac{1}{4}$ x $\frac{1}{8}$ x $\frac{3}{16}$	6	3 $\frac{1}{2}$
AS42	.50	2 $\frac{1}{4}$ x $\frac{1}{8}$ x $\frac{3}{16}$	6	3 $\frac{1}{2}$

Soft supplied on special orders.

Norton Arkansas Bench and Jewelers' Stones



A natural stone quarried in the Ozark Mountains.

The hard stone is unequalled for sharpening the finest tools used by experts like engravers and carvers of ivory. Its

unique texture makes it indispensable for sharpening surgical, dental and microtome knives.

The soft stone is procured from the same source but is slightly coarser and softer. A favorite with pattern makers and those engaged in general woodworking.

Bench Stones

No.	Each	No.	Each	Size Inches	Std. Wt. Oz.
HB3	\$3.25	SB3	\$.55	3x2x $\frac{3}{4}$ -1	1 9
HB4	4.00	SB4	1.00	4x2x $\frac{3}{4}$ -1	1 12
HB5	5.00	SB5	1.40	5x2x $\frac{3}{4}$ -1	1 15
HB6	6.00	SB6	2.00	6x2x $\frac{3}{4}$ -1	1 17
HB7	7.00	SB7	2.75	7x2x $\frac{3}{4}$ -1	1 20
HB8	8.00	SB8	3.50	8x2x $\frac{3}{4}$ -1	1 24

Jewelers' Stones

HB24	\$1.75	SB24	\$.65	4x2x $\frac{3}{8}$ - $\frac{1}{2}$	1 5
HB25	2.00	SB25	1.00	5x2x $\frac{3}{8}$ - $\frac{1}{2}$	1 6
HB26	2.75	SB26	1.50	6x2x $\frac{3}{8}$ - $\frac{1}{2}$	1 8

Norton Arkansas Round Edge Slips



Produces the finest oilstoned finish on curved edges and surfaces and is a necessity in woodturning plants and in making precision tools.

Regular Sizes

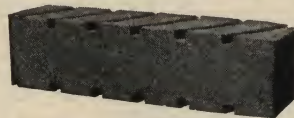
No.	Each	No.	Each	Approx. Size, In.	Std. Pkg.	Wt. Oz.
HS3	\$1.00	SS3	\$.40	3x1 $\frac{3}{4}$ -2x $\frac{1}{4}$ - $\frac{3}{8}$ x $\frac{1}{16}$ - $\frac{1}{8}$	3	7 $\frac{1}{2}$
HS4	1.50	SS4	.60	4x1 $\frac{3}{4}$ -2x $\frac{3}{8}$ - $\frac{1}{2}$ x $\frac{1}{8}$ - $\frac{3}{16}$	3	9
HS5	2.00	SS5	1.00	5x1 $\frac{3}{4}$ -2x $\frac{3}{8}$ - $\frac{1}{2}$ x $\frac{1}{8}$ - $\frac{1}{4}$	3	13 $\frac{1}{2}$

Small Sizes

HS13	\$.75	SS13	\$.35	3x1 $\frac{1}{4}$ -1 $\frac{1}{2}$ x $\frac{1}{4}$ - $\frac{3}{8}$ x $\frac{1}{8}$ -Sharp	3	6
HS14	1.00	SS14	.45	4x1 $\frac{1}{4}$ -1 $\frac{1}{2}$ x $\frac{1}{4}$ - $\frac{3}{8}$ x $\frac{1}{8}$ -Sharp	3	7 $\frac{1}{2}$
HS15	1.25	SS15	.60	5x1 $\frac{1}{4}$ -1 $\frac{1}{2}$ x $\frac{1}{4}$ - $\frac{3}{8}$ x $\frac{1}{8}$ -Sharp	3	9

Carborundum Brand Rubbing Bricks

For dressing concrete surfaces, removing mold marks and cleaning forms and molds. Made in 20 grit.

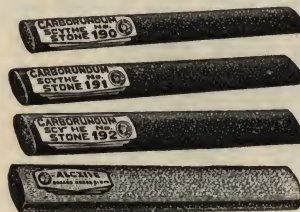


Oblong Fluted

No.	Inches	Per Dozen
284	8x3x3	\$33.60
285	8x2x2	16.80
286	6x2x2	13.20
287	4x2x2	10.20

Carborundum and Aloxite Brand Scythe Stones

REG. U.S. PAT. OFF.



Nos. 190, 191 and 192 are made from Carborundum Brand silicon carbide. Made in just the right grit to give a proper edge.

Nos 188 and 188R are made from Aloxite Brand aluminum oxide. Cut fast and clean.

Packed one dozen in display box.

No.	Each	Size In.	Wt. Lbs. per Doz.
190	\$.25	10x1 x $\frac{5}{8}$	4 $\frac{1}{4}$
191	.35	12x1 $\frac{1}{4}$ x $\frac{3}{4}$	8
192	.30	10x1 $\frac{1}{4}$ x $\frac{3}{4}$	7 $\frac{1}{4}$
188	.20	10x1 $\frac{1}{16}$ x $\frac{3}{16}$, $\frac{3}{16}$	6 $\frac{1}{2}$
*188R	.25	10x1 $\frac{1}{16}$ x $\frac{1}{16}$, $\frac{5}{16}$	7 $\frac{1}{4}$

*Has steel wire in center.

Behr-Manning Lightning Metalite Cloth



Metalite is an aluminum oxide free of impurities, made at high temperature in electric furnace. Every grain is stood pointed end up and evenly spaced by an electrical field of 46000 volts. In sheets 9x11 inches.

No.	320-100	80	60	50	40	36	30	24
Per Ream	\$54.70	58.10	63.10	67.60	72.70	78.40	84.00	90.00

Behr-Manning Lightning Metalite Cloth In 50-Yard Handy Rolls

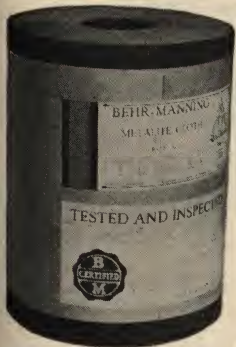


Metalite is an aluminum oxide free of impurities, made at high temperature in the electric furnace.

Handy rolls supply Metalite Cloth in a convenient, economical form that will give machinist just the length of abrasive cloth required for his job.

Width Inches	PER ROLL MESH No.							
	320 to 100	80	60	50	40	36	30	24
1	\$2.90	\$3.00	\$3.25	\$3.40	\$3.60	\$3.85	\$4.05	\$4.30
1½	4.05	4.20	4.50	4.80	5.10	5.45	5.75	6.10
2	5.15	5.40	5.80	6.15	6.55	7.00	7.45	7.95

Behr-Manning Metalite Cloth



X Weight In 50-Yard Rolls

The X-weight backing of Metalite Cloth is strong enough to withstand the severe strain thrown on it in metal sanding and polishing.

When speed is demanded, many finishing operations on metals, fibres, and plastics can be done faster with Metalite Cloth.

Original Width In.	PER ROLL GRIT No.							
	320-240	180-150	120-100	80	60	50	40	36
28	\$58.00	\$61.60	\$66.90	\$71.70	\$77.00	\$83.00	\$90.00	\$95.20
Slit Width, In.								
2½	\$5.80	\$6.15	\$6.65	\$7.10	\$7.60	\$8.15	\$8.75	\$9.30
3	6.90	7.30	7.95	8.45	9.05	9.75	10.45	11.15
4	9.15	9.70	10.50	11.25	12.00	12.95	13.85	14.80
6	13.65	14.45	15.65	16.75	17.95	19.30	20.65	22.05
9	20.35	21.55	23.40	25.00	26.80	28.85	30.90	33.00
12	27.10	28.70	31.10	33.30	35.65	38.45	41.15	43.95
14	31.55	33.40	36.30	38.80	41.60	44.80	47.95	51.25
18	40.55	42.90	46.60	49.85	53.40	57.55	61.60	65.80
24	53.70	56.85	61.65	66.20	71.00	76.30	82.75	87.80



Behr-Manning Garnet Paper In Sheets 9x11 Inches

Grut No.	Per Ream	Grut No.	Per Ream
4/0	\$22.50	1½	\$37.50
3/0	22.50	2	42.00
2/0	22.50	2½	46.50
0	25.00	3	51.20
½	29.00	3½	56.30
1	33.00	...	...

Behr-Manning Garnet Finishing Paper In Sheets 9x11 Inches

Nos. 8/0, 7/0, 6/0, 5/0, 4/0, 3/0, 2/0, 0

A specialized product for fine wood finishing and rubbing down paint fillers and undercoats. It may be used for dry or oil rubbing. It is made on a light 40-pound manila rope paper backing with a light flexible coating.

Packed in standard bundles of 5 reams each.
Price, 8/0 to 2/0.....per ream (480 sheets) \$22.50
Price, 0.....per ream (480 sheets) 25.00

Behr-Manning Garnet Paper In 50-Yard Rolls



Original Width In.	PRICE, PER ROLL GRIT No.							
	3/0 to 2/0	0	½	1	1½	2	2½	3
	MESH No.							
	120 to 100	80	60	50	40	36	30	24
24	\$20.50	\$22.70	\$26.30	\$30.00	\$34.00	\$38.20	\$42.30	\$46.50
30	25.60	28.35	32.85	37.50	42.50	47.75	52.85	58.10
36	30.75	34.05	39.45	45.00	51.00	57.30	63.45	69.75
42	35.85	39.70	46.00	52.50	59.50	66.85	74.00	81.40
48	41.00	45.40	52.60	60.00	68.00	76.40	84.60	93.00
	Slit Width Inches							
4	\$4.00	\$4.40	\$5.00	\$5.65	\$6.40	\$7.10	\$7.85	\$8.60
6	5.90	6.45	7.40	8.40	9.45	10.55	11.65	12.80
8	7.80	8.55	9.85	11.15	12.55	14.05	15.50	16.95
10	9.70	10.65	12.25	13.85	15.65	17.50	19.30	21.15
12	11.60	12.70	14.65	16.60	18.70	20.95	23.10	25.35
15	14.40	15.85	18.25	20.70	23.35	26.15	28.85	31.65
18	17.25	19.00	21.85	24.80	28.00	31.30	34.60	37.90
20	19.15	21.10	24.30	27.55	31.10	34.80	38.40	42.10

Prices for rolls other than 50 yards are proportionate to the 50-yard price plus a charge of 10 cents per inch of width.

Behr-Manning Garnet Cloth In 50-Yard Rolls



Original Width In.	PER ROLL GRIT No.							
	4/0 to 2/0	0	½	1	1½	2	2½	3
	MESH No.							
	150 to 100	80	60	50	40	36	30	24
28	\$58.00	\$61.60	\$66.90	\$71.70	\$77.00	\$83.00	\$90.00	\$95.20
Slit Width, In.								
4	\$9.15	\$9.70	\$10.50	\$11.25	\$12.00	\$12.95	\$13.85	\$14.80
6	13.65	14.45	15.65	16.75	17.95	19.30	20.65	22.05
8	18.15	19.20	20.80	22.25	23.85	25.70	27.50	29.35
14	31.55	33.40	36.30	38.80	41.60	44.80	47.95	51.25

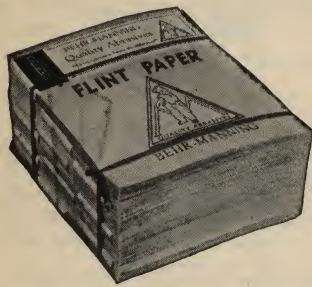
Prices for rolls other than 50 yards are proportionate to the 50-yard price plus a charge of 10 cents per inch of width.

Prices for intermediate widths upon application.

Troy Flint Paper

In Sheets, 9x11 Inches

Whenever the work demands the best quality of flint paper this brand is used.



Grit No.	Per Ream	Reams per Bundle
4/0	\$7.50	5
3/0	7.50	5
2/0	7.50	5
0	7.50	5
1/2	7.95	4
1	9.00	3 1/2
1 1/2	10.50	3
2	12.15	2
2 1/2	13.95	2
3	15.90	1 1/2
Assorted	10.50	3

Behr-Manning Garnet Waterproof Paper

In Sheets, 9x11 Inches

Garnet waterproof paper is used for the same general purposes as Speed-Wet, and its low first cost makes it especially economical on work such as the water sanding of lead paints and other materials that have a tendency to rapidly load the cutting face of the paper.

Garnet waterproof papers on high quality work will not remain sharp so long, nor will they produce as fine a finish as Speed-Wet.

Mesh No.	Per Ream of 480 Sheets	Mesh No.	Per Ream of 480 Sheets
7/0	\$15.50	3/0	\$21.00
6/0	15.50	2/0	23.00
5/0	16.75	0	25.50
4/0	19.00	...	.....

Behr-Manning Speed-Wet Waterproof Paper

In Sheets 9x11 Inches



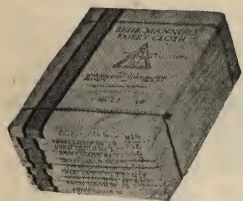
A waterproof sandpaper with a full coating of sharp, fast-cutting silicon carbide grain that is non-scratching, extremely pliable, finer finishing, slower loading, and economical to use.

It has been accepted as standard in the automotive industry for fine water sanding operations.

Mesh No.	Weight	Per Ream of 480 Sheets	Mesh No.	Weight	Per Ream of 480 Sheets
600-500-400	A	\$30.00	150	C	\$32.00
360-320	A or C	30.00	120	D	34.00
280	A or C	30.00	100	D	39.50
240	A or C	30.00	80	D	45.00
220	A or C	30.00	60	D	52.50
180	C	30.00	...	..	....

Behr-Manning Emery Cloth

In Sheets—9x11 Inches



Furnished in all standard grits, in sheets. Made of fine grade Turkish emery on best quality jeans backing.

Behr-Manning Emery Cloth is excellent for metal polishing operations.

PER REAM	GRIT NOS.	PER REAM	GRIT NOS.	PER REAM	GRIT NOS.	PER REAM	GRIT NOS.	PER REAM	GRIT NOS.
3/0-0	1/2	1	1 1/2	2	2 1/2	3	Asstd.		
\$30.00	\$31.20	\$32.75	\$34.30	\$36.50	\$39.40	\$42.50	\$33.25		

Crocus Cloth

In Sheets—9x11 Inches

Made in only one degree of fineness.

Per Ream.....\$30.00

Behr-Manning Metalite Cloth Grinding Discs

R Weight

Used in the metal working trades for the grinding and rough polishing of all kinds of metal pieces.

Diam. In.	PRICE, PER DISC							
	MESH No.							
	120	80	60	40	30	20	16	12
6	\$.12	\$.13	\$.14	\$.15	\$.17	\$.19	\$.21	\$.24
8	.19	.20	.22	.24	.28	.31	.36	.41
10	.28	.30	.33	.36	.41	.46	.54	.62
12	.38	.41	.44	.50	.57	.64	.76	.87
15	.56	.61	.67	.75	.87	.98	1.16	1.34
18	.79	.86	.94	1.06	1.23	1.39	1.65	1.91
20	.98	1.06	1.16	1.31	1.52	1.72	2.04	2.36
23	1.28	1.39	1.53	1.73	1.99	2.26	2.68	3.10
26	1.61	1.75	1.93	2.18	2.53	2.87	3.40	3.94
30	2.12	2.31	2.54	2.88	3.33	3.79	4.50	5.22
40	3.75	4.09	4.50	5.10	5.91	6.73	7.98	9.27
53	6.66	7.25	7.98	9.03	10.45	11.87	13.88	16.32

Behr-Manning Metalite Slotted Fibre-Combination Discs

Metalite Fibre-Combination Discs for use on portable sanding machines for metal scouring and finishing.

Have a rugged, strong backing, fast cutting qualities, and a firm grain adhesion.

Adaptable to any type of disc holder.

Diam. Inches	PER 100 GRADE No.					
	120 & 80	50	36	30	24	16
5	\$17.05	\$19.05	\$20.40	\$20.65	\$20.85	\$26.85
6	18.35	20.50	21.95	22.20	22.45	28.90
7	19.70	22.00	23.55	23.80	24.05	30.95
8	22.30	24.90	26.70	26.95	27.30	35.10
9 1/8	26.25	29.30	31.35	31.75	32.05	41.25

Carborundum Brand Super-Speed Valve Grinding Compound

REG. U. S. PAT. OFF.



Carborundum Brand Super-Speed has the fast cutting qualities of the water mix with the smoothness of the grease mix.

Carborundum Brand Super-Speed is a mixture of Carborundum Brand Silicon Carbide Grain, the hardest manufactured abrasive known, and a new type of binder.

Carborundum Brand Super-Speed clings and hangs on so long that only one application to a valve is ever necessary. No rings, no scoring, but a power-tight valve seat.

There is no changing from coarse to fine as Super-Speed comes only in one grade.

Super-Speed Compound

*No. 490, 2-Ounce Can.....	per can	\$.35
*No. 491, 4-Ounce Can.....	per can	.50
*No. 492, 8-Ounce Can.....	per can	.85
*No. 493, 16-Ounce Can.....	per can	1.50

Grease Mix Compound

*No. 277 Combination Can.....	per can	\$.50
*No. 360, 1-Pound Can, Fine.....	per can	1.50
*No. 361, 1-Pound Can, Medium.....	per can	1.50
*No. 362, 1-Pound Can, Coarse.....	per can	1.50
No. 363, 5-Pound Can, Fine.....	per can	6.25
No. 364, 5-Pound Can, Medium.....	per can	6.25
No. 365, 5-Pound Can, Coarse.....	per can	6.25
*Packed 12 in a box.		

Carborundum and Aloxite Brand Grains

REG. U.S. PAT. OFF.

REG. U.S. PAT. OFF.

and Powders



Grains are produced by crushing and grinding crude crystals, washing, and separating into various sizes by sieving.

Powders are grains too fine to size by ordinary sieving and are graded by floating in water.

Carborundum Brand Silicon Carbide Grains and Powders

Graded in the following grits: 6, 8, 10, 12, 14, 16, 20, 24, 30, 36, 40, 50, 60, 70, 80, 90, 100, 120, 150, 180, 220, 240, F, FF, FFF, 280, 320, 400, 500, and 600.

Size Lbs.	SIZE GRIT				Container
	6-240 Per Lb.	F-FF Per Lb.	280-320 Per Lb.	400-500 Per Lb.	
300	\$.16	\$.16	\$.25	\$.45	Kegs-Drums
150	\$.16 1/2	\$.16 1/2	\$.26	...	Kegs-Drums
100	\$.17	\$.17	\$.27	\$.47	Kegs-Drums
50	\$.18	\$.18	\$.28	\$.48	Drums
25	\$.20	\$.20	\$.30	\$.50	Drums
10	\$.25	\$.25	\$.35	\$.55	Cans
5	\$.35	\$.35	\$.50	\$.80	Cans
1	\$.50	\$.50	\$.60	\$.90	Cans
1/2	\$.60	\$.60	\$.70	1.00	Cans

Aloxite Brand Aluminum Oxide Grains and Powders

Graded in the following grits: 6, 8, 10, 12, 14, 16, 20, 24, 30, 36, 46 (40), 54 (50), 60, 70, 80, 90, 100, 120, 150, 180, 220, 240, F, FF, FFF, 280, 320, 400, 500, and 600.

Standard Gradings

360	\$.103 1/4	\$.12	\$.24	\$.40	Kegs-Drums
175	\$.11 1/4	\$.12 1/2	\$.25	...	Kegs-Drums
100	\$.11 3/4	\$.13	\$.26	\$.42	Kegs-Drums
50	\$.13	\$.14 1/2	\$.27 1/2	\$.44	Drums
25	\$.14 1/2	\$.16	\$.29	\$.46	Drums
10	\$.18	\$.20	\$.31	\$.48	Cans
5	\$.25	\$.30	\$.40	\$.65	Cans
1	\$.40	\$.45	\$.50	\$.80	Cans
1/2	\$.50	\$.55	\$.60	\$.90	Cans

Zip Valve Grinding Compound



The original water mix valve grinding compound.

Recommended for rough lapping on account of its rapid action and because it will not imbed. Contains no glass, grit, emery, oil or grease and will not ring, even on brass work.

1-Oz. Can, Hang-Up Display of 12 cans..... \$3.00

2-Oz. Can in Display Case of 1 Doz. Cans Med. Grade each .35

4-Oz. Can Medium Grade..... each .50

4-Oz. Can, Duplex..... each .60

8-Oz. Can, Fine, Medium, Coarse and Tractor Special Grades..... each .85

16-Oz. Cans, Fine, Medium, Coarse and Tractor Special Grades..... each 1.50

Pure Turkish Emery

Furnished in from No. 4 to No. 180 grain. Put up in 350-pound kegs, 1/2 kegs, 1/4 kegs, 1/8 kegs and 10-pound boxes. Smaller quantities in bulk.

Prices upon application.

American Emery

Furnished in the same grains, grades and sizes as the Turkish Emery.

Prices upon application.

Pumice Stone

Used by car and carriage painters for rubbing down varnish, shellac, etc.

Lump, About 250 Pounds in a Barrel..... per pound....
Powdered, About 250 Pounds in a barrel.... per pound....

Rotten Stone

Usually used after pumice stone; applied with linseed or rubbing oil and a cloth or rubbing felt.

Powdered, About 250 Pounds in a barrel.... per pound....

Polishing Supplies

Price, Tripoli.....	per pound	\$.20
" Rouge.....	"	.20
" Crocus.....	"	.20
" Rosin, in barrels.....	"	.15

American Steel Wool



Grades No. 000 and 00 are for rubbing down final coats, dulling varnish and antique finishing.

Grade No. 0 is for cleaning aluminum utensils, finishing and reviving old painted surfaces.

Grades No. 1 and 2 are for intermediate use, surfacing, cleaning linoleum floors and general abrasive uses.

Grade No. 3 is for removing painted surfaces, rough cleaning and surfacing and removing rust.

Packed 25 one-pound rolls in a case.

Grade No.....	000	00	0	1	2	3
Per Pound.....	\$.44	.31	.23	.23	.22	.22

American Steel Wool in Pads



This steel wool is put up in pads—a most convenient and economical form. This avoids pulling steel wool apart. Each pad is a good handful, and folds and unfolds. All the wool is usable.

Packed 16 pads in a locked-end, display package.

Grade No.....	000	00	0	1	2	3
Per Package.....	\$.44	.31	.23	.23	.22	.22

Standard Red Shield Taper Shank Twist Drills High Speed Steel



Diam. Inches	No. 550, Regular Shanks			No. 500, Shanks Smaller than Regular			No. 500A, Shanks Larger than Regular		
	Each	Length Overall Inches	Shank Taper No.	Each	Length Overall Inches	Shank Taper No.	Each	Length Overall Inches	Shank Taper No.
1/8	\$1.00	5 1/8	1	.....	.....	.....	.....	.....	.....
9/64	1.10	5 3/8	1	.....	.....	.....	.....	.....	.....
5/32	1.10	5 3/8	1	.....	.....	.....	.....	.....	.....
11/64	1.25	5 3/4	1	.....	.....	.....	.....	.....	.....
3/16	1.25	5 3/4	1	.....	.....	.....	.....	.....	.....
13/64	1.35	6	1	.....	.....	.....	.....	.....	.....
7/32	1.35	6	1	.....	.....	.....	.....	.....	.....
15/64	1.40	6 1/8	1	.....	.....	.....	.....	.....	.....
1/4	1.40	6 1/8	1	.....	.....	.....	.....	.....	.....
17/64	1.50	6 1/4	1	.....	.....	.....	.....	.....	.....
9/32	1.50	6 1/4	1	.....	.....	.....	.....	.....	.....
19/64	1.60	6 3/8	1	.....	.....	.....	.....	.....	.....
5/16	1.60	6 3/8	1	.....	.....	.....	.....	.....	.....
21/64	1.70	6 1/2	1	.....	.....	.....	.....	.....	.....
11/32	1.70	6 1/2	1	.....	.....	.....	.....	.....	.....
23/64	1.90	6 3/4	1	.....	.....	.....	.....	.....	.....
3/8	1.90	6 3/4	1	.....	.....	.....	.....	.....	.....
25/64	2.10	7	1	.....	.....	.....	\$2.10	7 3/8	2
13/32	2.10	7	1	.....	.....	.....	2.25	7 1/2	2
27/64	2.30	7 1/4	1	.....	.....	.....	2.25	7 1/2	2
7/16	2.30	7 1/4	1	.....	.....	.....	2.45	7 3/4	2
29/64	2.50	7 1/2	1	.....	.....	.....	2.45	7 3/4	2
15/32	2.50	7 1/2	1	.....	.....	.....	2.65	8	2
31/64	2.95	8 1/4	2	\$2.75	7 3/4	1	2.65	8	2
1/2	2.95	8 1/4	2	2.75	7 3/4	1	.....	.....	.....
33/64	3.25	8 1/2	2	3.05	8	1	.....	.....	.....
17/32	3.25	8 1/2	2	3.05	8	1	.....	.....	.....
35/64	3.75	8 3/4	2	3.50	8 1/4	1	.....	.....	.....
9/16	3.75	8 3/4	2	3.50	8 1/4	1	.....	.....	.....
37/64	4.00	8 3/4	2	.....	.....	.....	.....	.....	.....
19/32	4.00	8 3/4	2	.....	.....	.....	.....	.....	.....
39/64	4.25	8 3/4	2	.....	.....	.....	.....	.....	.....
5/8	4.25	8 3/4	2	.....	.....	.....	.....	.....	.....
41/64	4.75	9	2	.....	.....	.....	\$5.15	9 3/4	3
21/32	4.75	9	2	.....	.....	.....	5.15	9 3/4	3
43/64	5.25	9 1/4	2	.....	.....	.....	5.70	10	3
11/16	5.25	9 1/4	2	.....	.....	.....	5.70	10	3
45/64	5.75	9 1/2	2	.....	.....	.....	6.20	10 1/4	3
23/32	5.75	9 1/2	2	.....	.....	.....	6.20	10 1/4	3
47/64	6.25	9 3/4	2	.....	.....	.....	6.75	10 1/2	3
3/4	6.25	9 3/4	2	.....	.....	.....	6.75	10 1/2	3
49/64	6.50	9 7/8	2	.....	.....	.....	7.00	10 5/8	3
25/32	6.50	9 7/8	2	.....	.....	.....	7.00	10 5/8	3
51/64	7.25	10 3/4	3	\$6.75	10	2	.....	.....	.....
13/16	7.25	10 3/4	3	6.75	10	2	.....	.....	.....
53/64	7.65	10 3/4	3	7.15	10	2	.....	.....	.....
27/32	7.65	10 3/4	3	7.15	10	2	.....	.....	.....
55/64	8.05	10 3/4	3	7.50	10	2	.....	.....	.....
7/8	8.05	10 3/4	3	7.50	10	2	.....	.....	.....
57/64	8.45	10 3/4	3	7.85	10	2	.....	.....	.....
29/32	8.45	10 3/4	3	7.85	10	2	.....	.....	.....
59/64	8.85	10 3/4	3	.....	.....	.....	.....	.....	.....
15/16	8.85	10 3/4	3	.....	.....	.....	.....	.....	.....
61/64	9.65	11	3	.....	.....	.....	.....	.....	.....
31/32	9.65	11	3	.....	.....	.....	.....	.....	.....
63/64	10.25	11	3	.....	.....	.....	.....	.....	.....
1	10.25	11	3	.....	.....	.....	\$11.20	12	4
11/64	11.00	11 1/8	3	.....	.....	.....	12.00	12 1/8	4
11/32	11.00	11 1/8	3	.....	.....	.....	12.00	12 1/8	4
13/64	11.75	11 1/4	3	.....	.....	.....	12.80	12 1/4	4
11/16	11.75	11 1/4	3	.....	.....	.....	12.80	12 1/4	4
15/64	13.25	12 1/2	4	\$12.20	11 1/2	3	.....	.....	.....
13/32	13.25	12 1/2	4	12.20	11 1/2	3	.....	.....	.....
17/64	14.25	12 3/4	4	13.15	11 3/4	3	.....	.....	.....
11/8	14.25	12 3/4	4	13.15	11 3/4	3	.....	.....	.....
19/64	15.00	12 7/8	4	13.85	11 7/8	3	.....	.....	.....
15/32	15.00	12 7/8	4	13.85	11 7/8	3	.....	.....	.....

Continued

Standard Red Shield Taper Shank Twist Drills High Speed Steel Concluded

No. 500A drills not made larger than 1 1/16 inch.

Diam. Inches	No. 550, Shanks Regular			No. 500, Shanks Smaller than Regular		
	Each	Length Overall Inches	Shank Taper No.	Each	Length Overall Inches	Shank Taper No.
11 1/64	\$15.75	13	4	\$14.55	12	3
13 1/16	15.75	13	4	14.55	12	3
13 1/16	16.50	13 1/8	4	15.25	12 1/8	3
17 3/32	16.50	13 1/8	4	15.25	12 1/8	3
11 5/64	18.00	13 1/2	4	16.65	12 1/2	3
11 1/4	18.00	13 1/2	4	16.65	12 1/2	3
17 1/64	20.00	14 1/8	4	.....	.....	.....
19 3/32	20.00	14 1/8	4	.....	.....	.....
11 9/64	20.75	14 1/4	4	.....	.....	.....
15 1/16	20.75	14 1/4	4	.....	.....	.....
12 1/64	21.50	14 3/8	4	.....	.....	.....
11 1/32	21.50	14 3/8	4	.....	.....	.....
12 3/64	22.25	14 1/2	4	.....	.....	.....
13 1/8	22.25	14 1/2	4	.....	.....	.....
12 5/64	23.00	14 5/8	4	.....	.....	.....
11 3/32	23.00	14 5/8	4	.....	.....	.....
12 7/64	23.75	14 3/4	4	.....	.....	.....
17 1/16	23.75	14 3/4	4	.....	.....	.....
12 9/64	24.50	14 7/8	4	.....	.....	.....
11 5/32	24.50	14 7/8	4	.....	.....	.....
13 1/64	25.25	15	4	.....	.....	.....
11 1/2	25.25	15	4	.....	.....	.....
13 3/64	28.75	16 3/8	5	26.35	15	4
11 1/32	28.75	16 3/8	5	26.35	15	4
13 5/64	30.75	16 5/8	5	28.20	15 1/4	4
19 1/16	30.75	16 5/8	5	28.20	15 1/4	4
13 1/64	32.75	16 7/8	5	30.10	15 1/2	4
11 9/32	32.75	16 7/8	5	30.10	15 1/2	4
13 9/64	34.00	17	5	31.25	15 5/8	4
15 1/8	34.00	17	5	31.25	15 5/8	4
14 1/64	35.25	17 1/8	5	32.40	15 3/4	4
12 1/32	35.25	17 1/8	5	32.40	15 3/4	4
14 3/64	36.50	17 3/8	5	33.55	15 3/4	4
11 1/16	36.50	17 3/8	5	33.55	15 3/4	4
14 5/64	37.75	17 3/8	5	34.70	15 3/4	4
12 3/32	37.75	17 3/8	5	34.70	15 3/4	4
14 7/64	39.00	17 3/8	5	37.00	16 1/4	4
13 1/4	39.00	17 3/8	5	37.00	16 1/4	4
12 5/32	40.25	17 3/8	5	38.20	16 1/4	4
11 3/16	41.50	17 3/8	5	39.40	16 1/4	4
12 7/32	42.75	17 3/8	5	40.55	16 1/4	4
17 1/8	45.00	17 3/8	5	42.75	16 1/2	4
12 9/32	46.25	17 3/8	5	43.95	16 1/2	4
11 5/16	47.50	17 3/8	5	45.45	16 5/8	4
13 1/32	48.75	17 3/8	5	46.65	16 5/8	4
2	50.00	17 3/8	5	47.85	16 5/8	4
21 1/32	51.75	17 3/8	5	.....	.....	.....
21 1/16	53.50	17 3/8	5	.....	.....	.....
23 3/32	55.25	17 3/8	5	.....	.....	.....
21 1/8	57.00	17 3/8	5	.....	.....	.....
25 3/32	58.75	17 3/8	5	.....	.....	.....
23 1/16	60.50	17 3/8	5	.....	.....	.....
27 3/32	62.25	17 3/8	5	.....	.....	.....
21 1/4	64.00	17 3/8	5	.....	.....	.....
25 1/16	67.50	17 3/8	5	.....	.....	.....
23 1/8	71.00	17 3/8	5	.....	.....	.....
27 1/16	87.50	18 3/4	5	.....	.....	.....
21 1/2	91.00	18 3/4	5	.....	.....	.....
29 1/16	100.00	19 1/2	5	.....	.....	.....
25 1/8	105.00	19 1/2	5	.....	.....	.....
21 1/16	115.50	20 3/8	5	.....	.....	.....
23 1/4	120.50	20 3/8	5	.....	.....	.....
21 3/16	129.50	21 1/8	5	.....	.....	.....
27 1/8	135.00	21 1/8	5	.....	.....	.....
21 5/16	142.50	21 3/4	5	.....	.....	.....
3	150.00	21 3/4	5	.....	.....	.....
31 1/16	178.00	24 1/16	6	160.00	22	5
31 1/8	189.00	24 1/16	6	170.00	22	5
33 1/16	200.00	24 1/16	6	180.00	22	5
31 1/4	216.00	25 1/16	6	195.00	23	5
35 1/16	232.00	25 1/16	6	210.00	23	5
33 1/8	249.00	25 1/16	6	225.00	23	5
37 1/16	266.00	25 1/16	6	240.00	23	5
31 1/2	287.00	26 1/16	6	260.00	24	5

Standard Taper Shank Twist Drills
High Speed Steel

No. 511—3-Fluted

No. 512—4-Fluted



No. 512

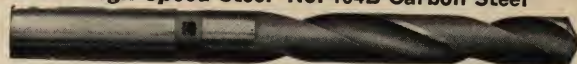
Diam. In.	Each	Dec. Equiv. In.	Lgth. Over-Taper all Shank In. No.	Diam. In.	Each	Dec. Equiv. In.	Lgth. Over-Taper all Shank In. No.
*1/4	\$2.75	.2500	6 1/8 1	1 1/2	\$17.75	1.1562	12 7/8 4
*9/32	2.85	.2812	6 1/4 1	1 3/4	18.75	1.1875	13 4
*5/16	2.95	.3125	6 3/8 1	1 7/8	19.75	1.2187	13 1/2 4
*11/32	3.05	.3437	6 1/2 1	1 15/16	21.75	1.2500	13 1/2 4
*3/8	3.25	.3750	6 3/4 1	1 31/32	23.75	1.2812	14 1/8 4
*13/32	3.45	.4062	7 1	1 15/16	24.75	1.3125	14 1/4 4
*7/16	3.65	.4375	7 1/4 1	1 11/32	25.75	1.3437	14 3/8 4
*15/32	3.85	.4687	7 1/2 1	1 13/32	26.75	1.3750	14 1/2 4
1/2	4.30	.5000	8 1/4 2	1 13/32	28.00	1.4062	14 5/8 4
17/32	4.60	.5312	8 1/2 2	1 15/32	29.25	1.4375	14 3/4 4
9/16	5.10	.5625	8 3/4 2	1 15/32	30.50	1.4687	14 7/8 4
19/32	5.35	.5937	8 3/4 2	1 1/2	31.75	1.5000	15 4
5/8	5.60	.6250	8 3/4 2	1 17/32	35.50	1.5312	16 3/8 5
21/32	6.10	.6562	9 2	1 19/32	37.50	1.5625	16 5/8 5
11/16	6.60	.6875	9 1/4 2	1 19/32	39.50	1.5937	16 7/8 5
23/32	7.10	.7187	9 1/2 2	1 5/8	41.00	1.6250	17 5
3/4	7.60	.7500	9 3/4 2	1 21/32	42.50	1.6562	17 1/8 5
25/32	8.00	.7812	9 7/8 2	1 11/16	44.00	1.6875	17 1/8 5
13/16	9.00	.8125	10 3/4 3	1 23/32	45.50	1.7187	17 5/8 5
27/32	9.50	.8437	10 3/4 3	1 3/4	47.00	1.7500	17 5/8 5
7/8	10.00	.8750	10 3/4 3	1 25/32	48.50	1.7812	17 5/8 5
29/32	10.50	.9062	10 3/4 3	1 11/16	50.00	1.8125	17 5/8 5
15/16	11.00	.9375	10 3/4 3	1 13/16	51.50	1.8437	17 5/8 5
31/32	12.00	.9687	11 3	1 17/32	54.50	1.8750	17 5/8 5
1	12.75	1.0000	11 3	1 19/32	56.25	1.9062	17 5/8 5
1 1/32	13.50	1.0312	11 1/8 3	1 15/16	58.00	1.9375	17 5/8 5
1 1/16	14.25	1.0625	11 1/4 3	1 31/32	59.75	1.9687	17 5/8 5
1 1/8	15.75	1.0937	12 1/2 4	2	61.50	2.0000	17 3/8 5
1 1/4	16.75	1.1250	12 3/4 4				

*Four-fluted drills not furnished smaller than 1/2 inch.
For sizes larger than 2 inches, prices upon request.

Standard Straight Shank Twist Drills

Long Series

No. 501 High Speed Steel No. 104B Carbon Steel



Diameter Inches	High Speed Each	Carbon Each	Decimal Equiv. Inches	Length Overall Inches
1/8	\$1.00	\$.45	.1250	5 1/8
9/64	1.10	.45	.1406	5 3/8
5/32	1.10	.45	.1562	5 3/8
11/64	1.25	.50	.1719	5 3/4
3/16	1.25	.50	.1875	5 3/4
13/64	1.35	.55	.2031	6
7/32	1.35	.55	.2187	6
15/64	1.40	.60	.2344	6 1/8
1/4	1.40	.60	.2500	6 1/8
17/64	1.50	.65	.2656	6 1/8
9/32	1.50	.65	.2812	6 1/4
19/64	1.60	.70	.2969	6 3/8
5/16	1.60	.70	.3125	6 3/8
21/64	1.70	.75	.3281	6 1/2
11/32	1.70	.75	.3437	6 1/2
23/64	1.90	.80	.3594	6 3/4
3/8	1.90	.80	.3750	6 3/4
25/64	2.10	.90	.3906	7
13/32	2.10	.90	.4062	7
27/64	2.30	1.00	.4219	7 1/4
7/16	2.30	1.00	.4375	7 1/4
29/64	2.50	1.10	.4531	7 1/2
15/32	2.50	1.10	.4687	7 1/2
31/64	2.75	1.20	.4844	7 3/4
1/2	2.75	1.20	.5000	7 3/4
33/64	3.05	1.30	.5156	8
17/32	3.05	1.30	.5312	8
35/64	3.50	1.40	.5469	8 1/4
9/16	3.50	1.40	.5625	8 1/4
37/64	4.00	1.50	.5781	8 3/4
19/32	4.00	1.50	.5937	8 3/4
39/64	4.25	1.60	.6094	8 3/4
5/8	4.25	1.60	.6250	8 3/4
41/64	4.75	1.70	.6406	9
21/32	4.75	1.70	.6562	9
43/64	5.25	1.80	.6719	9 1/4
11/16	5.25	1.80	.6875	9 1/4
45/64	5.75	1.90	.7031	9 1/2
23/32	5.75	1.90	.7187	9 1/2
47/64	6.25	2.00	.7344	9 3/4
3/4	6.25	2.00	.7500	9 3/4
49/64	6.50	2.10	.7656	9 3/4
25/32	6.50	2.10	.7812	9 3/4
51/64	6.75	2.20	.7969	10
13/16	6.75	2.20	.8125	10
53/64	7.15	2.40	.8281	10
27/32	7.15	2.40	.8437	10
55/64	7.50	2.60	.8594	10
7/8	7.50	2.60	.8750	10
57/64	7.85	2.80	.8906	10
29/32	7.85	2.80	.9062	10
59/64	8.85	3.00	.9219	10 3/4
15/16	8.85	3.00	.9375	10 3/4
61/64	9.65	3.25	.9531	11
31/32	9.65	3.25	.9687	11
63/64	10.25	3.50	.9844	11
1	10.25	3.50	1.0000	11
1 1/64	11.00	3.75	1.0156	11 1/8
11/32	11.00	3.75	1.0311	11 1/8
13/32	11.75	4.00	1.0469	11 1/4
15/32	11.75	4.00	1.0625	11 1/4
17/32	12.20	4.25	1.0781	11 1/2
19/32	12.20	4.25	1.0937	11 1/2
21/32	13.15	4.50	1.1094	11 3/4
23/32	13.15	4.50	1.1250	11 3/4
25/32	13.85	4.75	1.1406	11 3/4
27/32	13.85	4.75	1.1562	11 3/4
29/32	14.55	5.00	1.1719	12
31/32	14.55	5.00	1.1875	12
1	15.25	5.25	1.2031	12 1/8
1 1/64	15.25	5.25	1.2187	12 1/8
1 1/32	16.65	5.50	1.2344	12 1/2
1 1/16	16.65	5.50	1.2500	12 1/2
1 1/8	20.00	5.75	1.2656	12 1/2
1 1/4	20.75	6.00	1.2812	12 1/2
1 1/2	21.50	6.25	1.2969	12 1/2
1 3/4	22.25	6.50	1.3125	12 1/2
1 5/8	23.00	7.00	1.3281	12 1/2
1 3/2	23.75	7.50	1.3437	12 1/2
1 7/8	24.50	8.00	1.3594	12 1/2
1 15/16	25.25	8.50	1.3750	12 1/2
1 1/2	26.00	9.00	1.3906	12 1/2
1 13/16	26.75	9.50	1.4062	12 1/2
1 11/8	27.50	10.00	1.4219	12 1/2
1 11/16	28.25	10.50	1.4375	12 1/2
1 11/8	29.00	11.00	1.4531	12 1/2
1 11/16	29.75	11.50	1.4687	12 1/2
1 11/8	30.50	12.00	1.4844	12 1/2
1 11/16	31.25	12.50	1.5000	12 1/2
1 11/8	32.00	13.00	1.5156	12 1/2
1 11/16	32.75	13.50	1.5312	12 1/2
1 11/8	33.50	14.00	1.5469	12 1/2
1 11/16	34.25	14.50	1.5625	12 1/2
1 11/8	35.00	15.00	1.5781	12 1/2
1 11/16	35.75	15.50	1.5937	12 1/2
1 11/8	36.50	16.00	1.6094	12 1/2
1 11/16	37.25	16.50	1.6250	12 1/2
1 11/8	38.00	17.00	1.6406	12 1/2
1 11/16	38.75	17.50	1.6562	12 1/2
1 11/8	39.50	18.00	1.6719	12 1/2
1 11/16	40.25	18.50	1.6875	12 1/2
1 11/8	41.00	19.00	1.7031	12 1/2
1 11/16	41.75	19.50	1.7187	12 1/2
1 11/8	42.50	20.00	1.7344	12 1/2
1 11/16	43.25	20.50	1.7500	12 1/2
1 11/8	44.00	21.00	1.7656	12 1/2
1 11/16	44.75	21.50	1.7812	12 1/2
1 11/8	45.50	22.00	1.7969	12 1/2
1 11/16	46.25	22.50	1.8125	12 1/2
1 11/8	47.00	23.00	1.8281	12 1/2
1 11/16	47.75	23.50	1.8437	12 1/2
1 11/8	48.50	24.00	1.8594	12 1/2
1 11/16	49.25	24.50	1.8750	12 1/2
1 11/8	50.00	25.00	1.8906	12 1/2
1 11/16	50.75	25.50	1.9062	12 1/2
1 11/8	51.50	26.00	1.9219	12 1/2
1 11/16	52.25	26.50	1.9375	12 1/2
1 11/8	53.00	27.00	1.9531	12 1/2
1 11/16	53.75	27.50	1.9687	12 1/2
1 11/8	54.50	28.00	1.9844	12 1/2
1 11/16	55.25	28.50	2.0000	12 1/2
1 11/8	56.00	29.00	2.0156	12 1/2
1 11/16	56.75	29.50	2.0311	12 1/2
1 11/8	57.50	30.00	2.0469	12 1/2
1 11/16	58.25	30.50	2.0625	12 1/2
1 11/8	59.00	31.00	2.0781	12 1/2
1 11/16	59.75	31.50	2.0937	12 1/2
1 11/8	60.50	32.00	2.1094	12 1/2
1 11/16	61.25	32.50	2.1250	12 1/2
1 11/8	62.00	33.00	2.1406	12 1/2
1 11/16	62.75	33.50	2.1562	12 1/2
1 11/8	63.50	34.00	2.1719	12 1/2
1 11/16	64.25	34.50	2.1875	12 1/2
1 11/8	65.00	35.00	2.2031	12 1/2
1 11/16	65.75	35.50	2.2187	12 1/2
1 11/8	66.50	36.00	2.2344	12 1/2
1 11/16	67.25	36.50	2.2500	12 1/2
1 11/8	68.00	37.00	2.2656	12 1/2
1 11/16	68.75	37.50	2.2812	12 1/2
1 11/8	69.50	38.00	2.2969	12 1/2
1 11/16	70.25	38.50	2.3125	12 1/2
1 11/8	71.00	39.00	2.3281	12 1/2
1 11/16	71.75	39.50	2.3437	12 1/2
1 11/8	72.50	40.00	2.3594	12 1/2
1 11/16	73.25	40.50	2.3750	12 1/2
1 11/8	74.00	41.00	2.3906	12 1/2
1 11/16	74.75	41.50	2.4062	12 1/2
1 11/8	75.50	42.00	2.4219	12 1/2
1 11/16	76.25	42.50	2.4375	12 1/2
1 11/8	77.00	43.00	2.4531	12 1/2
1 11/16	77.75	43.50	2.4687	12 1/2
1 11/8	78.50	44.00	2.4844	12 1/2
1 11/16	79.25	44.50	2.5000	12 1/2
1 11/8	80.00	45.00	2.5156	12 1/2
1 11/16	80.75	45.50	2.5312	12 1/2
1 11/8	81.50	46.00	2.5469	12 1/2
1 11/16	82.25	46.50	2.5625	12 1/2
1 11/8	83.00	47.00	2.5781	12 1/2
1 11/16	83.75	47.50	2.5937	12 1/2
1 11/8	84.50	48.00	2.6094	12 1/2
1 11/16	85.25	48.50	2.6250	12 1/2
1 11/8	86.00	49.00	2.6406	12 1/2
1 11/16	86.75	49.50	2.6562	12 1/2

Standard Straight Shank Twist Drills

Jobbers' or Short Lengths

No. 504 High Speed Steel

No. 105 Carbon Steel



Diameter Inches	High Speed per Doz.	Carbon per Doz.	Decimal Equiv. Inches	Length Overall Inches
1/64	\$4.25	\$1.50	.0156	7/8
1/32	3.50	1.50	.0312	1 1/2
3/64	2.40	1.55	.0469	1 3/4
1/16	3.00	1.60	.0625	2 1/2
5/64	3.10	1.65	.0781	2 5/8
3/32	3.20	1.70	.0937	2 3/4
7/64	3.40	1.75	.1094	2 7/8
1/8	3.60	1.80	.1250	3
9/64	3.90	1.85	.1406	3 1/8
5/32	4.20	1.90	.1562	3 1/4
11/64	4.50	2.00	.1719	3 3/8
3/16	4.85	2.25	.1875	3 1/2
13/64	5.25	2.50	.2031	3 5/8
7/32	5.75	2.75	.2187	3 3/4
15/64	6.25	3.00	.2344	3 7/8
1/4	6.75	3.25	.2500	4
17/64	7.50	3.50	.2656	4 1/8
9/32	8.25	3.80	.2812	4 1/4
19/64	9.00	4.00	.2969	4 3/8
5/16	9.75	4.35	.3125	4 1/2
21/64	10.75	4.70	.3281	4 5/8
11/32	11.75	5.05	.3437	4 3/4
23/64	12.75	5.50	.3594	4 7/8
3/8	13.75	6.00	.3750	5
25/64	15.00	6.50	.3906	5 1/8
13/32	16.25	7.00	.4062	5 1/4
27/64	17.50	7.75	.4219	5 3/8
7/16	18.75	8.50	.4375	5 1/2
29/64	20.00	9.25	.4531	5 5/8
15/32	21.25	10.00	.4687	5 3/4
31/64	22.75	11.00	.4844	5 7/8
1/2	24.25	12.00	.5000	6

Standard Straight Shank Twist Drills

Letter Sizes

No. 505 High Speed Steel

No. 106 Carbon Steel



Size by Gage	High Speed per Doz.	Carbon per Doz.	Decimal Equiv. Inches	Length Overall Inches
A	\$6.25	\$3.00	.234	3 7/8
B	6.55	3.05	.238	3 7/8
C	6.55	3.10	.242	3 7/8
D	6.75	3.15	.246	4
E	6.75	3.25	.250	4
F	7.50	3.35	.257	4 1/8
G	7.50	3.45	.261	4 1/8
H	8.00	3.50	.266	4 1/8
I	8.00	3.65	.272	4 1/8
J	8.00	3.70	.277	4 1/8
K	8.25	3.80	.281	4 1/4
L	8.75	3.90	.290	4 1/4
M	9.00	4.00	.295	4 3/8
N	9.50	4.25	.302	4 3/8
O	10.45	4.40	.316	4 1/2
P	10.75	4.60	.323	4 5/8
Q	11.75	4.75	.332	4 3/4
R	11.75	5.05	.339	4 3/4
S	12.75	5.15	.348	4 7/8
T	12.75	5.50	.358	4 7/8
U	13.75	6.00	.368	5
V	14.65	6.00	.377	5
W	15.00	6.50	.386	5 1/8
X	15.85	6.75	.397	5 1/8
Y	15.85	7.00	.404	5 1/4
Z	17.10	7.25	.413	5 1/4

Sizes A to K, put up, 12 of a size, in envelopes.
 Sizes L to Z, put up, 6 of a size, in envelopes.

Standard Straight Shank Wire Gage
Twist Drills

No. 506 High Speed Steel

No. 107 Carbon Steel



No. by Gage	High Speed per Doz.	Carbon per Doz.	Decimal Equiv. Inches	Length Overall Inches
1	\$6.45	\$2.75	.2280	4
2	6.45	2.75	.2210	3 15/16
3	6.15	2.75	.2130	3 15/16
4	5.95	2.75	.2090	3 7/8
5	5.95	2.75	.2055	3 13/16
6	5.95	2.50	.2040	3 13/16
7	5.45	2.50	.2010	3 3/4
8	5.45	2.50	.1990	3 11/16
9	5.45	2.50	.1960	3 11/16
10	5.25	2.50	.1935	3 3/8
11	5.25	2.25	.1910	3 3/8
12	5.25	2.25	.1890	3 3/8
13	4.85	2.25	.1850	3 1/2
14	4.85	2.25	.1820	3 1/2
15	4.85	2.25	.1800	3 1/2
16	4.65	2.00	.1770	3 1/2
17	4.65	2.00	.1730	3 1/2
18	4.50	2.00	.1695	3 1/2
19	4.35	2.00	.1660	3 1/4
20	4.35	2.00	.1610	3 1/4
21	4.35	1.90	.1590	3 1/4
22	4.15	1.90	.1570	3 1/4
23	4.05	1.90	.1540	3 1/4
24	4.05	1.90	.1520	3 1/4
25	3.90	1.90	.1495	3
26	3.90	1.80	.1470	2 15/16
27	3.90	1.80	.1440	2 15/16
28	3.60	1.80	.1405	2 7/8
29	3.60	1.80	.1360	2 13/16
30	3.60	1.80	.1285	2 13/16
31	3.30	1.75	.1200	2 3/4
32	3.30	1.75	.1160	2 11/16
33	3.30	1.75	.1130	2 11/16
34	3.15	1.75	.1110	2 5/8
35	3.15	1.75	.1100	2 5/8
36	3.10	1.75	.1065	2 9/16
37	2.95	1.75	.1040	2 1/2
38	2.95	1.75	.1015	2 1/2
39	2.95	1.75	.0995	2 1/2
40	2.80	1.75	.0980	2 3/8
41	2.80	1.70	.0960	2 3/8
42	2.75	1.70	.0935	2 3/8
43	2.60	1.70	.0890	2 1/4
44	2.60	1.70	.0860	2 1/4
45	2.60	1.70	.0820	2 3/16
46	2.50	1.65	.0810	2 1/8
47	2.50	1.65	.0785	2 1/8
48	2.50	1.65	.0760	2 1/16
49	2.50	1.65	.0730	2
50	2.40	1.65	.0700	1 15/16
51	2.40	1.60	.0670	1 15/16
52	2.40	1.60	.0635	1 7/8
53	2.40	1.60	.0595	1 13/16
54	2.40	1.60	.0550	1 13/16
55	2.40	1.60	.0520	1 3/4
56	2.40	1.55	.0465	1 11/16
57	2.40	1.55	.0430	1 11/16
58	2.40	1.55	.0420	1 5/8
59	2.40	1.55	.0410	1 5/8
60	2.40	1.55	.0400	1 5/8
61	3.50	1.50	.0390	1 1/2
62	3.50	1.50	.0380	1 1/2
63	3.50	1.50	.0370	1 1/2
64	3.50	1.50	.0360	1 1/2
65	3.50	1.50	.0350	1 1/2
66	3.50	1.50	.0330	1 1/2
67	3.50	1.50	.0320	1 1/4
68	3.50	1.50	.0310	1 1/4
69	3.50	1.50	.0292	1 3/8
70	3.50	1.50	.0280	1 3/8
71	4.25	1.50	.0260	1 3/4
72	4.25	1.50	.0250	1 3/4
73	4.25	1.50	.0240	1 3/4
74	4.25	1.50	.0225	1 3/8
75	4.25	1.50	.0210	1 1/4
76	4.25	1.50	.0200	1
77	4.25	1.50	.0180	1 1/4
78	4.25	1.50	.0160	7/8
79	4.25	1.50	.0145	1 1/4
80	4.25	1.50	.0135	3/4

Standard Blacksmiths' Twist Drills

1/2-Inch Shanks—Short Lengths
No. 517 High Speed Steel **No. 112 Carbon Steel**



Flattened Shank

No. 517R High Speed Steel **No. 112R Carbon Steel**



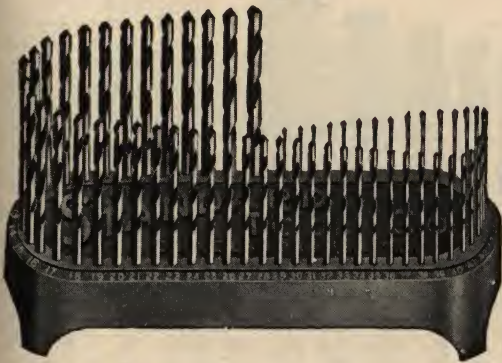
Round Shank

Diam. Inches	High Speed Each	Carbon Each	Length Overall Inches	Diam. Inches	High Speed Each	Carbon Each	Length Overall Inches
1/8	\$1.40	\$.45	4 7/8	23/32	\$5.25	\$1.60	6
3/32	1.50	.45	5 1/8	3/4	5.50	1.70	6
1/16	1.60	.50	5 1/2	25/32	5.75	1.80	6
7/32	1.75	.55	5 3/4	13/16	6.00	1.90	6
1/4	1.90	.60	6	27/32	6.25	2.00	6
9/32	2.05	.65	6	7/8	6.50	2.10	6
5/16	2.20	.70	6	29/32	6.75	2.20	6
11/32	2.35	.75	6	15/16	7.25	2.30	6
3/8	2.50	.80	6	31/32	7.75	2.40	6
13/32	2.75	.85	6	1	8.50	2.50	6
7/16	3.00	.90	6	1 1/32	.....	2.60	6
15/32	3.25	.95	6	1 1/16	.....	2.70	6
1/2	3.50	1.00	6	1 1/8	.....	2.90	6
17/32	3.75	1.05	6	1 1/16	.....	3.10	6
9/16	4.00	1.10	6	1 1/4	.....	3.30	6
19/32	4.25	1.20	6	1 5/16	.....	3.60	6
5/8	4.50	1.30	6	1 3/8	.....	3.90	6
21/32	4.75	1.40	6	1 7/16	.....	4.20	6
11/16	5.00	1.50	6	1 1/2	.....	4.50	6

High speed drills with 1/2-inch shanks in sizes over 3/4-inch furnished at customer's risk only; 1/2-inch shanks are not considered strong enough for larger sizes.

Unless otherwise specified carbon steel drills with shanks flattened and **high speed** drills with round shanks are furnished.

Standard Wire Gage and Jobbers' Twist Drill Sets



No. 5 1/2 High Speed Steel

Set consists of drills, 1/16 to 1/2 inch, inclusive, by 64ths, without metal block.

No. 5 1/2.....each **\$24.75**

No. 8 1/2 High Speed Steel

Set consists of drills, Nos. 1 to 60, inclusive, without metal block.

No. 8 1/2.....each **\$18.85**

No. 5 Carbon Steel

Set consists of drills, 1/16 to 1/2 inch, inclusive, by 64ths, mounted on metal block.

No. 5.....each **\$16.00**

No. 8 Carbon Steel

Set consists of drills, Nos. 1 to 60, inclusive, mounted on metal block.

No. 8.....each **\$14.35**

Metal Blocks

For use with Nos. 5 1/2, 8 1/2, 5 and 8 sets.
 Each..... **\$3.50**

No. 108 Standard Bit Stock Drills

For Metal or Wood Carbon Steel



Size shank, 3/16x3/8x1 1/4 inches.

Diam. In.	Per Doz.	Lgth. Over All, In.	Diam. In.	Per Doz.	Lgth. Over All, In.
1/16	\$2.50	3 3/8	5/8	\$18.00	7 1/2
3/32	2.70	3 5/8	21/32	19.50	7 1/2
1/8	3.00	3 7/8	11/16	21.00	7 1/2
5/32	3.50	4 1/8	23/32	22.50	7 1/2
3/16	4.00	4 3/8	3/4	24.00	7 1/2
7/32	4.50	4 5/8	25/32	25.50	7 1/2
1/4	5.00	5 1/8	13/16	27.00	7 1/2
9/32	6.00	5 1/4	27/32	28.50	7 1/2
5/16	7.00	5 1/2	7/8	30.00	7 1/2
11/32	8.00	5 3/4	29/32	31.50	7 1/2
3/8	8.50	5 7/8	15/16	33.00	7 1/2
13/32	9.25	6	31/32	34.50	7 1/2
7/16	10.50	6 1/4	1	36.00	7 1/2
15/32	11.75	6 3/8	1 1/16	39.00	7 1/2
1/2	13.00	6 3/4	1 1/8	42.00	7 1/2
17/32	14.25	7 1/2	1 1/16	45.00	7 1/2
9/16	15.50	7 1/2	1 1/4	48.00	7 1/2
19/32	16.75	7 1/2			

Put up, sizes 1/16 to 3/4, one dozen of a size, in a wood box; sizes, 25/32 to 1, one-half dozen of a size, in a wood box; sizes 1 1/16 to 1 1/4, one-fourth dozen of a size, in a wood box.

Standard Combined Drills and Countersinks

No. 779 High Speed Steel **No. 107D Carbon Steel**



Angle of countersink, 60°.

Size	High Speed per Doz.	Carbon per Doz.	Diameter Drill, In.	Diameter Body, In.
A-1	\$8.00	\$2.50	3/64	1/8
C-2	8.00	3.00	1/16	15/64
D-1	8.00	3.25	5/64	3/10
E-1	8.00	3.50	3/32	7/16
E-2	8.00	3.50	1/8	1 1/2
F-1	12.00	4.50	5/32	1 1/2
F-2	12.00	4.50	3/16	1 1/2
J-1	18.00	5.75	7/32	1 1/2
J-2	18.00	5.75	9/32	1 1/2
M-1	24.00	9.00	5/16	1 1/2
M-2	24.00	9.00	3/8	1 1/2
N-1	32.00	.....	1/2	1 1/2
N-2	32.00	.....	5/8	1 1/2

Alemite Drill Stands

This drill stand is also a drill gauge. Beneath each drill number is given the decimal equivalent in inches. The drill number recommended for every tap size from 2-56 to 1/2-12 to give a practical thread is specified on the stand.

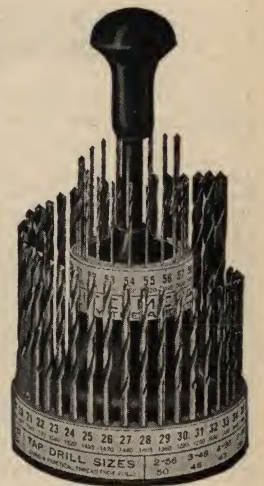
Stand is made from a hard metal that will not rust and is finished in hard black enamel with polished handle.

The holes are so accurate that only the proper drill will fit, yet drill cannot bind. Usage will not wear the holes.

Numbers are large black figures etched on aluminum background and are indestructible.

Packed individually in cardboard cartons. Weight of No. 1, 1 1/2 pounds; No. 2, 2 pounds.

Prices below are for stands only and do not include drills.



No. 1

Price, No. 1, for Drills from No. 1 to 60.....each **\$2.50**
 Price, No. 2, for Drills from 1/16 to 1/2 Inch by 64ths.....each **2.50**

Ridgid LonGrip Screw Extractors

Set No. 3

Includes Ridgid LonGrip Extractors, Nos. 3, 4 and 5 for extraction of broken threaded ends of diameters $\frac{3}{8}$ to $\frac{1}{2}$ -inch and slightly larger. Pocket leatherette case.

No. 3.....per set \$2.55

Set No. 5

Includes Ridgid LonGrip Extractors, Nos. 1, 2, 3, 4 and 5 for extraction of threaded ends of diameters $\frac{1}{4}$ to $\frac{1}{2}$ -inch and slightly larger.

For use in garages, tool rooms, etc. Compact pocket leatherette case.

No. 5.....per set \$3.80



No. 5

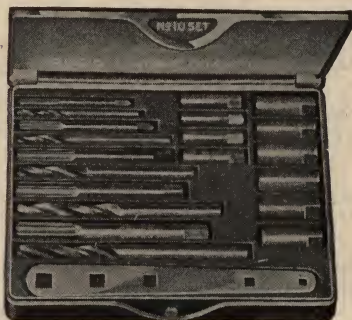
Set No. 10

Maximum depth extractions, 1-inch.

Contains one each of extractors Nos. 1 to 5 inclusive, drills Nos. 1 to 5 inclusive, drill guides Nos. 921 to 1821 inclusive, and an extractor wrench.

Packaged in die cast box.

No. 10...per set \$10.85

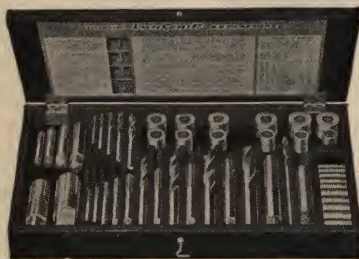


No. 25

Maximum depth extractions range 1 to 3 inches. Contains one each of screw extractors Nos. 0 to 8 inclusive, drills Nos. 0 to 8 inclusive, also No. 36, complete set of drill guides and bushings, and pipe extractors Nos. 80 to 85 inclusive.

Packed in wood box having fitted compartments.

No. 25.....per set \$41.00



No. 192 Standard Screw Extractors



To remove a broken screw drill a hole in it, insert a screw extractor and turn to the left to take out the screw.

No.	Each	Diam. Small End Inches	Diam. Large End Inches	Length Flutes Inches	Whole Length Inches	Size Drill to Use	For Screws and Bolts Sizes Inches
1	\$.55	.054	.117	$\frac{1}{2}$	2	$\frac{5}{64}$	$\frac{3}{16}$ - $\frac{1}{4}$
2	.60	.080	.174	$\frac{3}{4}$	2 $\frac{3}{8}$	$\frac{7}{64}$	$\frac{1}{4}$ - $\frac{5}{16}$
3	.65	$\frac{1}{8}$	$\frac{1}{4}$	1	2 $\frac{1}{16}$	$\frac{5}{32}$	$\frac{5}{16}$ - $\frac{1}{2}$
4	.75	$\frac{7}{16}$	$\frac{1}{2}$	1 $\frac{1}{8}$	2 $\frac{7}{8}$	$\frac{1}{4}$	$\frac{7}{16}$ - $\frac{3}{4}$
5	.85	$\frac{1}{4}$	$\frac{7}{16}$	1 $\frac{1}{2}$	3 $\frac{3}{8}$	$\frac{17}{64}$	$\frac{9}{16}$ - $\frac{3}{4}$
6	1.00	$\frac{3}{8}$	$\frac{19}{32}$	1 $\frac{3}{4}$	3 $\frac{1}{2}$	$\frac{13}{32}$	$\frac{3}{4}$ - 1
7	1.35	$\frac{1}{2}$	$\frac{3}{4}$	2	4 $\frac{1}{8}$	$\frac{17}{32}$	1 - 1 $\frac{3}{8}$
8	1.85	$\frac{3}{4}$	1	2	4 $\frac{3}{8}$	$\frac{13}{16}$	1 $\frac{3}{8}$ - 1 $\frac{3}{4}$
9	2.65	1	1 $\frac{1}{32}$	2 $\frac{1}{4}$	4 $\frac{5}{8}$	1 $\frac{1}{16}$	1 $\frac{3}{4}$ - 2 $\frac{1}{8}$
10	4.00	1 $\frac{1}{4}$	1 $\frac{9}{16}$	2 $\frac{1}{2}$	5	1 $\frac{3}{16}$	2 $\frac{1}{8}$ - 2 $\frac{1}{2}$
11	5.35	1 $\frac{1}{2}$	1 $\frac{7}{8}$	3	5 $\frac{5}{8}$	1 $\frac{9}{16}$	2 $\frac{1}{2}$ - 3
12	6.65	1 $\frac{3}{8}$	2 $\frac{1}{16}$	3 $\frac{1}{2}$	6 $\frac{1}{4}$	1 $\frac{15}{16}$	3 - 3 $\frac{1}{2}$

Screw Extractor Sets

No. 15, Includes Nos. 1, 2, 3, 4, 5.....per set \$3.00

No. 15A, Includes Nos. 1, 2, 3, 4, 5, 6.....per set 4.00

No. 16, Includes Nos. 6, 7, 8, 9.....per set 6.65

No. 17, Includes Nos. 4, 5, 6.....per set 2.35

Ridgid LonGrip Screw Extractors

Special Sets

Each extractor is plainly marked with diameter drill to use.

Extractor No.	Each	Set No.	Ex-tractor No.	Ex-tractor Drill No.	Guide No.	Max. Depth In.
000	\$.80					
00	.70					
0	.60					
1	.65					
2	.70					
3	.75					
4	.85					
5	1.00					
6	1.15					
7	1.55					
8	2.15					
9	3.10					
10	4.65					
11	6.20					
12	7.75					

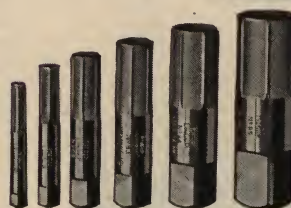
Standard Length Screw Extractors

Extractor No.	Each	Diam. Drill In.	Overall Length In.	For Screws and Bolts Sizes, In.	Number of Flutes	Max. depth Extrac-tion, In.
38	\$1.50	$\frac{1}{4}$	8	$\frac{3}{8}$	6	5 $\frac{1}{2}$
48	1.75	$\frac{5}{16}$	8	$\frac{7}{16}$	6	5 $\frac{1}{2}$
58	2.00	$\frac{11}{32}$	8	$\frac{1}{2}$ - $\frac{9}{16}$	6	5 $\frac{1}{2}$
68	2.30	$\frac{7}{16}$	8	$\frac{5}{8}$	6	5 $\frac{1}{2}$
78	3.15	$\frac{1}{2}$	8	$\frac{3}{4}$	6	5 $\frac{1}{2}$
88	4.30	$\frac{5}{8}$	8	7-8-1	6	5 $\frac{1}{2}$
98	6.15	1 $\frac{1}{16}$	8	1 $\frac{1}{8}$ - 1 $\frac{1}{4}$	6	5 $\frac{1}{2}$
1010	9.30	1 $\frac{1}{16}$	10	1 $\frac{1}{2}$ - 1 $\frac{3}{4}$	6	7
1110	12.45	1 $\frac{3}{8}$	10	2 - 2 $\frac{1}{4}$	6	7
1210	15.45	1 $\frac{5}{8}$	10	2 $\frac{1}{2}$ - 3	6	7

Extra Length Screw Extractors

Extractor No.	Each	Diam. Drill In.	Overall Length In.	For Screws and Bolts Sizes, In.	Number of Flutes	Max. depth Extrac-tion, In.
38	\$1.50	$\frac{1}{4}$	8	$\frac{3}{8}$	6	5 $\frac{1}{2}$
48	1.75	$\frac{5}{16}$	8	$\frac{7}{16}$	6	5 $\frac{1}{2}$
58	2.00	$\frac{11}{32}$	8	$\frac{1}{2}$ - $\frac{9}{16}$	6	5 $\frac{1}{2}$
68	2.30	$\frac{7}{16}$	8	$\frac{5}{8}$	6	5 $\frac{1}{2}$
78	3.15	$\frac{1}{2}$	8	$\frac{3}{4}$	6	5 $\frac{1}{2}$
88	4.30	$\frac{5}{8}$	8	7-8-1	6	5 $\frac{1}{2}$
98	6.15	1 $\frac{1}{16}$	8	1 $\frac{1}{8}$ - 1 $\frac{1}{4}$	6	5 $\frac{1}{2}$
1010	9.30	1 $\frac{1}{16}$	10	1 $\frac{1}{2}$ - 1 $\frac{3}{4}$	6	7
1110	12.45	1 $\frac{3}{8}$	10	2 - 2 $\frac{1}{4}$	6	7
1210	15.45	1 $\frac{5}{8}$	10	2 $\frac{1}{2}$ - 3	6	7

Ridgid LonGrip Straight Fluted Pipe Extractors



Made with vertical flutes that stand out slightly from tool. Easily driven into pipe end, flutes grooving way firmly down entire length inserted. Will not turn into or out of broken end. No damaging of threads, wedging, bottoming, slipping, reaming, or spreading of pipe.

Separate extractor for each size pipe. Sets in canvas bags.

Ridgid LonGrip Pipe Extractors

No.	Each	Pipe Size, In.	Flute Diam. O.D., In.	Overall Length, In.	Use Drill
80	\$1.05	$\frac{1}{8}$	.287	2 $\frac{1}{4}$	$\frac{1}{4}$
81	1.15	$\frac{1}{4}$	.389	2 $\frac{1}{2}$	$\frac{3}{8}$
82	1.55	$\frac{3}{8}$	.538	2 $\frac{3}{4}$	$\frac{1}{2}$
83	1.85	$\frac{1}{2}$	.665	3	$\frac{5}{8}$
84	2.20	$\frac{3}{4}$	.860	3 $\frac{1}{4}$	1 $\frac{1}{16}$
85	\$3.20	1	1.069	3 $\frac{1}{2}$	1 $\frac{1}{8}$
86	4.45	1 $\frac{1}{4}$	1.423	3 $\frac{3}{4}$	1 $\frac{3}{8}$
87	6.10	1 $\frac{1}{2}$	1.676	4	1 $\frac{1}{2}$
875	6.75	1 $\frac{3}{4}$	1.806	4 $\frac{1}{4}$	1 $\frac{3}{4}$
89	7.45	2	2.122	4 $\frac{1}{2}$	2 $\frac{1}{8}$

Sets of Ridgid LonGrip Pipe Extractors

Sets contain assortments as shown in following table.

No.	Each	Pipe Size, In.	Part Nos.
880	\$5.60	$\frac{1}{8}$ - $\frac{1}{2}$	80 to 83 Incl.
881	6.60	$\frac{1}{4}$ - $\frac{3}{4}$	81 to 84 Incl.
882	9.50	$\frac{1}{2}$ - 1	81 to 85 Incl.
883	10.45	$\frac{1}{8}$ - 1	80 to 85 Incl.
889	33.30	$\frac{1}{8}$ - 2	80 to 89 Incl.

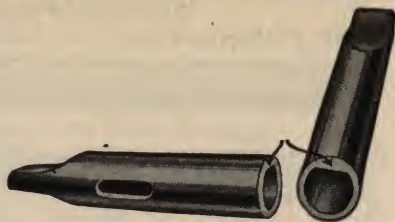
Drifts or Center Keys For Sockets and Sleeves



Size No.	Fitting Sockets and Sleeve No	Price Each	Size No.	Fitting Sockets and Sleeve No.	Price Each
1	1	\$.30	3	3	\$.40
2	2	.35	4	4, 5 and 6	.50

No. 100 Use-Em-Up Type Drill Sleeves

To be used in connection with twist drills which have had the tangs twisted off. All that is necessary is to grind a flat on the remaining portion of the shank.



Size No.	No. of Hole	No. of Outside	Price Each	Size No.	No. of Hole	No. of Outside	Price Each
1-2	1	2	\$1.80	2-5	2	5	\$4.40
1-3	1	3	2.40	3-4	3	4	3.00
1-4	1	4	3.00	3-5	3	5	4.40
1-5	1	5	4.40	4-5	4	5	4.40
2-3	2	3	2.40	4-6	4	6	10.00
2-4	2	4	3.00	5-6	5	6	10.00

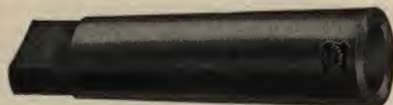
No. 100A Collis Use-Em-Up Type Drill Sockets

Used with twist drills which have had the tangs twisted off. All that is necessary is to grind a flat on remaining portion of shank.

Size No.	Each	No. of Hole	No. of Shank	Size No.	Each	No. of Hole	No. of Shank
1-2	\$2.00	1	2	3-4	\$3.20	3	4
1-3	2.50	1	3	3-5	4.80	3	5
1-4	3.20	1	4	4-3	4.80	4	3
1-5	4.80	1	5	4-4	4.80	4	4
2-2	2.50	2	2	4-5	4.80	4	5
2-3	2.50	2	3	4-6	12.00	4	6
2-4	3.20	2	4	5-4	12.00	5	4
2-5	4.80	2	5	5-5	12.00	5	5
3-2	3.20	3	2	5-6	12.00	5	6
3-3	3.20	3	3	....	....	....	....

No. 118 Standard Steel Sleeves

For Taper Shank Drills



Size No.	Hole No.	Outside Socket No.	Price Each	Size No.	Hole No.	Outside Socket No.	Price Each
1 to 2	1	2	\$1.80	2 to 5	2	5	\$4.40
1 " 3	1	3	2.40	3 " 4	3	4	3.00
1 " 4	1	4	3.00	3 " 5	3	5	4.40
1 " 5	1	5	4.40	4 " 5	4	5	4.40
2 " 3	2	3	2.40	4 " 6	4	6	10.00
2 " 4	2	4	3.00	5 " 6	5	6	10.00

No. 117 Standard Steel Sockets

Finished Shanks

For Taper Shank Drills



Size No.	Hole No.	Shank No.	Price Each	Size No.	Hole No.	Shank No.	Price Each
1 to 2	1	2	\$2.00	3 to 4	3	4	\$3.20
1 " 3	1	3	2.50	3 " 5	3	5	4.80
1 " 4	1	4	3.20	4 " 3	4	3	4.80
1 " 5	1	5	4.80	4 " 4	4	4	4.80
2 " 3	2	3	2.50	4 " 5	4	5	4.80
2 " 4	2	4	3.20	4 " 6	4	6	12.00
2 " 5	2	5	4.80	5 " 4	5	4	12.00
3 " 2	3	2	3.20	5 " 5	5	5	12.00
3 " 3	3	3	3.20	5 " 6	5	6	12.00

Standard Straight Fluted Hand Reamers

No. 600 High Speed Steel

No. 122 Carbon Steel



Diam. Inches	High Speed Each	Carbon Each	Length Overall Inches	Length Flute In.	Diam. Inches	High Speed Each	Carbon Each	Length Overall Inches	Length Flute In.
1/8	\$3.00	\$1.00	3	1 1/2	41/64	\$6.75	2.40	7 3/8	31 1/16
9/64	....	1.20	3 1/4	1 5/8	21/32	....	2.40	7 3/8	31 1/16
5/32	3.25	1.20	3 1/4	1 5/8	43/64	....	2.40	7 3/8	31 1/16
11/64	....	1.20	3 1/2	1 3/4	11/16	6.75	2.40	7 3/8	31 1/16
3/16	3.25	1.20	3 1/2	1 3/4	45/64	....	2.60	8 1/8	41 1/16
13/64	....	1.40	3 3/4	1 7/8	23/32	7.25	2.60	8 1/8	41 1/16
7/32	3.50	1.40	3 3/4	1 7/8	47/64	....	2.60	8 1/8	41 1/16
15/64	....	1.40	4	2	3/4	7.25	2.60	8 1/8	41 1/16
1/4	3.50	1.40	4	2	25/32	7.75	2.80	8 1/8	41 1/16
11/64	....	1.50	4 1/4	2 1/8	13/16	7.75	2.80	9 1/8	41 1/16
9/32	3.75	1.50	4 1/4	2 1/8	27/32	8.50	3.10	9 1/8	41 1/16
19/64	....	1.50	4 1/2	2 1/4	7/8	8.50	3.10	9 1/8	41 1/16
5/16	3.75	1.50	4 1/2	2 1/4	29/32	9.50	3.40	10	5
11/32	....	1.60	4 3/4	2 3/8	15/16	9.50	3.40	10 1/4	5 1/8
21/64	4.25	1.60	4 3/4	2 3/8	31/32	10.50	3.70	10 5/8	5 1/8
11/32	....	1.60	5	2 1/2	1	10.50	3.70	10 7/8	5 1/8
23/64	....	1.60	5	2 1/2	1 1/16	11.50	4.00	11 1/4	5 1/8
3/8	4.25	1.60	5	2 1/2	1 1/8	12.75	4.30	11 3/8	5 1/8
25/64	....	1.75	5 1/4	2 5/8	1 1/4	14.25	4.60	12	6
13/32	4.75	1.75	5 1/4	2 5/8	1 3/8	15.75	4.90	12 1/4	6 1/8
27/64	....	1.75	5 1/2	2 3/4	1 1/2	17.25	5.20	12 1/2	6 1/8
7/16	4.75	1.75	5 1/2	2 3/4	1 5/8	18.75	5.60	12 3/8	6 1/8
29/64	....	1.90	5 3/4	2 7/8	1 3/4	20.50	6.00	12 7/8	6 1/8
15/32	5.25	1.90	5 3/4	2 7/8	1 7/8	22.25	6.40	13	6 1/2
31/64	....	1.90	6	3	1 9/16	....	6.80	13	6 1/2
1/2	5.25	1.90	6	3	1 5/8	....	7.20	13	6 1/2
33/64	....	2.00	6 1/4	3 1/8	1 11/16	....	7.60	13 1/2	6 3/4
17/32	5.75	2.00	6 1/4	3 1/8	1 3/4	....	8.00	13 1/2	6 3/4
35/64	....	2.00	6 1/2	3 1/4	1 13/16	....	8.40	13 1/2	6 3/4
9/16	5.75	2.00	6 1/2	3 1/4	1 7/8	....	8.80	14	7
37/64	....	2.20	6 3/4	3 3/8	1 15/16	....	9.20	14	7
19/32	6.25	2.20	6 3/4	3 3/8	2	....	9.60	14	7
39/64	....	2.20	7	3 1/2	....	....	....	....	....
5/8	6.25	2.20	7	3 1/2	....	....	....	....	....

Standard Fluted Jobbers' Reamers

With Taper Shanks

No. 603 High Speed Steel

No. 122B Carbon Steel



Diameter Inches	High Speed Each	Carbon Each	Length Overall Inches	Length Flute Inches	Taper Shank No.
1/4	\$4.00	\$1.70	5 3/16	2	1
9/32	4.25	....	5 3/16	2	1
5/16	4.25	1.80	5 1/2	2 1/4	1
11/32	4.75	....	5 1/2	2 1/4	1
3/8	4.75	1.90	5 13/16	2 1/2	1
13/32	5.25	....	5 13/16	2 1/2	1
7/16	5.25	2.15	6 1/8	2 3/4	1
15/32	5.75	....	6 1/8	2 3/4	1
1/2	5.75	2.30	6 1/8	3	1
17/32	6.25	....	6 1/8	3	1
9/16	6.25	2.40	6 3/4	3 1/4	1
19/32	6.75	....	6 3/4	3 1/4	1
5/8	6.75	2.65	7 1/16	3 1/2	2
21/32	7.25	....	7 1/16	3 1/2	2
11/16	7.25	2.90	8	3 3/8	2
23/32	7.75	....	8	3 3/8	2
3/4	7.75	3.10	8 3/8	4 1/16	2
13/16	8.50	3.35	8 3/8	4 1/16	2
7/8	9.50	3.70	9 1/16	4 7/8	2
15/16	10.50	4.10	10	5 1/8	3
1	11.50	4.45	10 3/8	5 1/8	3
1 1/16	12.50	4.80	10 5/8	5 5/8	3
1 1/8	13.75	5.15	10 7/8	5 13/16	3
1 1/4	15.25	5.50	11 1/8	6	3
1 1/2	16.75	5.90	12 1/16	6 1/8	4
1 5/8	18.25	6.25	12 1/16	6 1/4	4
1 3/4	19.75	6.70	12 3/16	6 3/8	4
1 7/8	21.50	7.20	13	6 7/16	4
2	23.25	7.70	13 3/8	6 1/2	4

Reamers for brass and bronze and other non-ferrous metals require special clearance and can be furnished on request.

Standard Fluted Chucking Reamers

With Straight Shanks

No. 618 High Speed Steel

No. 124 Carbon Steel



Diameter Inches	High Speed Each	Carbon Each	Length Overall Inches	Length Flute Inches	Diameter Shank Inches
1/8	\$2.00	\$.90	3 1/2	7/8	7/64
5/32	2.50	1.00	4	1	9/64
3/16	2.50	1.00	4 1/2	1 1/8	11/64
7/32	3.00	1.20	5	1 1/4	13/64
1/4	3.00	1.20	6	1 1/2	15/64
9/32	3.25	1.30	6	1 1/2	17/64
5/16	3.25	1.30	6	1 1/2	19/64
11/32	3.75	1.45	6	1 1/2	21/64
3/8	3.75	1.45	7	1 3/4	23/64
13/32	4.25	1.60	7	1 3/4	25/64
7/16	4.25	1.60	7	1 3/4	27/64
15/32	4.75	1.80	7	1 3/4	29/64
1/2	4.75	1.80	8	2	31/64
9/16	5.25	2.00	8	2	33/64
19/32	5.75	2.25	8	2	35/64
5/8	5.75	2.25	9	2 1/4	37/64
21/32	6.25	2.40	9	2 1/4	39/64
11/16	6.25	2.40	9	2 1/4	41/64
23/32	6.75	2.55	9	2 1/4	43/64
3/4	6.75	2.55	9 1/2	2 1/2	45/64
25/32	7.25	2.80	9 1/2	2 1/2	47/64
13/16	7.25	2.80	9 1/2	2 1/2	49/64
27/32	8.00	3.00	9 1/2	2 1/2	51/64
7/8	8.00	3.00	10	2 1/2	53/64
29/32	9.00	3.25	10	2 1/2	55/64
15/16	9.00	3.25	10	2 1/2	57/64
31/32	10.00	3.45	10	2 1/2	59/64
1	10.00	3.45	10 1/2	2 1/2	61/64
1 1/16	11.25	3.70	10 1/2	2 1/2	63/64
1 1/8	12.50	3.90	11	2 1/2	65/64
1 1/4	13.75	4.15	11	2 1/2	67/64
1 1/2	15.25	4.35	11 1/2	2 1/2	69/64
1 5/8	17.00	4.60	11 1/2	2 1/2	71/64
1 3/4	18.75	4.80	12	2 1/2	73/64
1 7/8	20.50	5.05	12	2 1/2	75/64
1 1/2	22.25	5.25	12 1/2	2 1/2	77/64

Standard Rose Chucking Reamers

With Taper Shanks

No. 621 High Speed Steel

No. 124C Carbon Steel



Diameter Inches	High Speed Each	Carbon Each	Length Overall Inches	Length Flute Inches	Taper Shank No.
1/4	\$3.50	\$1.45	6	1 1/2	1
9/32	3.75	1.55	6	1 1/2	1
5/16	3.75	1.55	6	1 1/2	1
11/32	4.25	1.75	6	1 1/2	1
3/8	4.25	1.75	7	1 3/4	1
13/32	4.75	1.90	7	1 3/4	1
7/16	4.75	1.90	7	1 3/4	1
15/32	5.25	2.15	7	1 3/4	1
1/2	5.25	2.15	8	2	1
9/16	5.75	2.40	8	2	1
5/8	6.25	2.70	9	2 1/4	2
11/16	6.75	2.90	9	2 1/4	2
3/4	7.25	3.05	9 1/2	2 1/2	2
13/16	8.00	3.35	9 1/2	2 1/2	2
7/8	9.00	3.60	10	2 5/8	2
15/16	10.00	3.90	10	2 5/8	3
1	11.00	4.15	10 1/2	2 3/4	3
1 1/16	12.25	....	10 1/2	2 3/4	3
1 1/8	13.50	4.70	11	2 7/8	3
1 1/4	14.75	....	11	2 7/8	3
1 1/2	16.25	5.20	11 1/2	3	4
1 5/8	18.00	....	11 1/2	3	4
1 3/4	19.75	5.75	12	3 1/4	4
1 7/8	21.50	....	12	3 1/4	4
1 1/2	23.25	6.30	12 1/2	3 1/2	4

All sizes and dimensions not listed are special and are subject to special prices.

Standard Fluted Chucking Reamers

With Taper Shanks

No. 619 High Speed Steel

No. 124B Carbon Steel



Diameter Inches	High Speed Each	Carbon Each	Length Overall Inches	Length Flute Inches	Taper Shank No.
1/4	\$3.50	\$1.45	6	1 1/2	1
9/32	3.75	1.55	6	1 1/2	1
5/16	3.75	1.55	6	1 1/2	1
11/32	4.25	1.75	6	1 1/2	1
3/8	4.25	1.75	7	1 3/4	1
13/32	4.75	1.90	7	1 3/4	1
7/16	4.75	1.90	7	1 3/4	1
15/32	5.25	2.15	7	1 3/4	1
1/2	5.25	2.15	8	2	1
9/16	5.75	2.40	8	2	1
19/32	6.25	2.70	8	2	1
5/8	6.25	2.70	9	2 1/4	2
21/32	6.75	2.90	9	2 1/4	2
11/16	6.75	2.90	9	2 1/4	2
23/32	7.25	3.05	9	2 1/4	2
3/4	7.25	3.05	9 1/2	2 1/2	2
25/32	8.00	3.35	9 1/2	2 1/2	2
13/16	8.00	3.35	9 1/2	2 1/2	2
27/32	9.00	3.60	9 1/2	2 1/2	2
7/8	9.00	3.60	10	2 5/8	2
29/32	10.00	3.90	10	2 5/8	2
15/16	10.00	3.90	10	2 5/8	3
31/32	11.00	4.15	10	2 5/8	3
1	11.00	4.15	10 1/2	2 3/4	3
1 1/16	12.25	4.45	10 1/2	2 3/4	3
1 1/8	13.50	4.70	11	2 7/8	3
1 1/4	14.75	5.00	11	2 7/8	3
1 1/2	16.25	5.20	11 1/2	3	4
1 5/8	18.00	5.50	11 1/2	3	4
1 3/4	19.75	5.75	12	3 1/4	4
1 7/8	21.50	6.05	12	3 1/4	4
1 1/2	23.25	6.30	12 1/2	3 1/2	4

Standard Hi-Bra Expansion Chucking Reamers

High Speed Steel

No. 642 with Taper Shank



No. 644 with Straight Shank



Especially adapted for rapid production operations. **High speed** steel blade is brazed into slots milled in a body of tough alloy steel. This construction gives the rigidity of a solid **high speed** reamer, and with greater strength.

Diameter Inches	No. 642, Taper Shank Each	No. 644 Straight Shank Each	Length Overall Inches	Length Flute Inches
1/2	\$4.75	\$4.25	8	1
9/16	5.00	4.50	8	1 1/8
5/8	5.25	4.75	9	1 1/4
11/16	5.50	5.00	9	1 1/4
3/4	6.00	5.50	9 1/2	1 3/8
13/16	6.40	6.00	9 1/2	1 3/8
7/8	7.00	6.50	10	1 1/2
15/16	7.60	7.10	10	1 1/2
1	8.30	7.80	10 1/2	1 5/8
1 1/16	9.00	8.60	10 1/2	1 5/8
1 1/8	9.80	9.40	11	1 3/4
1 1/4	10.60	10.00	11	1 3/4
1 1/2	11.50	10.70	11 1/2	1 7/8
1 3/8	12.00	11.10	11 1/2	1 7/8
1 1/2	12.50	11.50	12	2
1 7/8	13.10	12.00	12	2
1 1/2	13.60	12.50	12 1/2	2 1/8
1 5/8	14.85	13.70	13	2 1/4
1 3/4	16.30	15.00	13 1/2	2 3/8
1 7/8	18.00	16.40	14	2 1/2
2	19.80	18.00	14	2 1/2

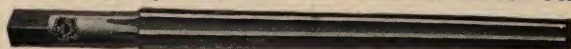
Standard Spiral Fluted Chucking Reamers**High Speed Steel**
No. 618-S—with Straight Shank**No. 619-S—with Taper Shank**

The flutes are all right hand spiral and right hand cut.

Diameter Inches	No. 618-S		No. 619-S		Length Overall Inches	Length Flute Inches
	High Speed Each	Diam. Shank Inches	High Speed Each	Taper Shank No.		
1/8	\$2.20	7/64	....	..	3 1/2	7/8
5/32	2.75	9/64	....	..	4	1
3/16	2.75	11/64	....	..	4 1/2	1 1/8
7/32	3.30	13/64	....	..	5	1 1/4
1/4	3.30	15/64	\$3.85	1	6	1 1/2
9/32	3.60	17/64	4.15	1	6	1 1/2
5/16	3.60	9/32	4.15	1	6	1 1/2
11/32	4.15	11/32	4.70	1	6	1 1/2
3/8	4.15	5/16	4.70	1	7	1 3/4
13/32	4.70	3/8	5.25	1	7	1 3/4
7/16	4.70	3/8	5.25	1	7	1 3/4
15/32	5.25	7/8	5.80	1	7	1 3/4
1/2	5.25	7/8	5.80	1	8	2
1 1/32	5.80	1 1/16	6.35	1	8	2
9/16	5.80	1 1/16	6.35	1	8	2
19/32	6.35	1 1/16	6.90	1	8	2
5/8	6.35	1 1/16	6.90	2	9	2 1/4
21/32	6.90	1 1/16	7.45	2	9	2 1/4
11/16	6.90	1 1/16	7.45	2	9	2 1/4
23/32	7.45	1 1/16	8.00	2	9	2 1/4
3/4	7.45	1 1/16	8.00	2	9 1/2	2 1/2
25/32	8.00	1 1/16	8.80	2	9 1/2	2 1/2
13/16	8.00	1 1/16	8.80	2	9 1/2	2 1/2
27/32	8.80	1 1/16	9.90	2	9 1/2	2 1/2
7/8	8.80	3/4	9.90	2	10	2 5/8
29/32	9.90	3/4	11.00	2	10	2 5/8
15/16	9.90	3/4	11.00	3	10	2 5/8
31/32	11.00	3/4	12.10	3	10	2 5/8
1	11.00	7/8	12.10	3	10 1/2	2 3/4
1 1/16	12.40	7/8	13.50	3	10 1/2	2 3/4
1 1/8	13.75	1	14.85	3	11	2 7/8
1 1/4	15.15	1	16.25	3	11	2 7/8
1 1/2	16.80	1 1/8	17.90	4	11 1/2	3
1 5/8	18.70	1 1/4	19.80	4	11 1/2	3
1 3/4	20.65	1 1/2	21.75	4	12	3 1/4
1 7/8	22.55	1 3/4	23.65	4	12	3 1/4
2	24.50	1 7/8	25.60	4	12 1/2	3 1/2

No. 682 Standard Helical Fluted Taper Pin Reamers**3-Fluted**
High Speed SteelFor use on drill presses, lathes, electric or air drills.
Tapers 1/4 inch per foot.

Size No.	Each	Diam. Small End In.	Diam. Large End In.	Length Over- all In.	Length Flute In.	Diam. Shank In.
7-0	\$2.75	.0497	.0666	1 13/16	13/16	5/64
6-0	2.50	.0611	.0806	1 15/16	15/16	3/32
5-0	2.50	.0719	.0966	2 1/16	1 3/16	7/64
4-0	2.50	.0869	.1142	2 3/16	1 3/16	1/8
3-0	2.25	.1029	.1302	2 5/16	1 5/16	9/64
2-0	2.25	.1137	.1462	2 7/16	1 7/16	5/32
0	2.25	.1287	.1638	2 15/16	1 11/16	11/64
1	2.50	.1447	.1798	2 17/16	1 13/16	3/16
2	2.75	.1605	.2008	3 1/16	1 15/16	13/64
3	3.00	.1813	.2294	3 3/16	2 1/16	15/64
4	3.50	.2071	.2604	4 1/16	2 3/16	17/64
5	3.75	.2409	.2994	4 5/16	2 13/16	5/16
6	4.25	.2773	.3540	5 1/16	3 1/16	23/64
7	5.00	.3297	.4220	6 3/16	4 1/16	13/32
8	5.75	.3971	.5050	7 3/16	5 3/16	7/16
9	6.25	.4805	.6066	8 5/16	6 1/16	9/16
10	7.50	.5799	.7216	9 5/16	6 13/16	5/8

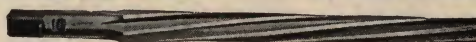
Standard Taper Pin Reamers**Straight Fluted****No. 680 High Speed Steel** **No. 126 Carbon Steel**

Tapers 1/4 inch per foot.

Reamers all have the same taper, and the point of each will enter a hole reamed by the next smaller size.

No.	High Speed Each	Carbon Each	Diam. Small End, In.	Diam. Large End, In.	Length Overall In.	Length Flute In.	Diam. Shank In.
7-0	\$3.50	\$1.75	.0497	.0666	1 13/16	13/16	5/64
6-0	3.50	1.60	.0611	.0806	1 15/16	15/16	3/32
5-0	3.25	1.50	.0719	.0966	2 1/16	1 3/16	7/64
4-0	3.25	1.50	.0869	.1142	2 3/16	1 3/16	1/8
3-0	3.25	1.50	.1029	.1302	2 5/16	1 5/16	9/64
2-0	3.00	1.35	.1137	.1462	2 7/16	1 7/16	5/32
0	2.80	1.00	.1287	.1638	2 15/16	1 11/16	11/64
1	2.90	1.00	.1447	.1798	2 17/16	1 13/16	3/16
2	3.00	1.25	.1605	.2008	3 1/16	1 15/16	13/64
3	3.00	1.50	.1813	.2294	3 3/16	2 1/16	15/64
4	3.25	1.75	.2071	.2604	4 1/16	2 3/16	17/64
5	3.50	2.00	.2409	.2994	4 5/16	2 13/16	5/16
6	4.25	2.25	.2773	.3540	5 1/16	3 1/16	23/64
7	5.25	2.50	.3297	.4220	6 3/16	4 1/16	13/32
8	6.75	3.00	.3971	.5050	7 3/16	5 3/16	7/16
9	8.25	3.50	.4805	.6066	8 5/16	6 1/16	9/16
10	9.00	4.50	.5799	.7216	9 5/16	6 13/16	5/8

All sizes, dimensions and styles not listed are special and subject to special prices.

Standard Taper Pin Reamers**Spiral Fluted****No. 681 High Speed Steel** **No. 126B Carbon Steel**

Tapers 1/4 inch per foot.

Reamers all have the same taper, and the point of each will enter a hole reamed the next smaller size.

Size No.	High Speed Each	Carbon Each	Diam. Small End, In.	Diam. Large End, In.	Length Overall In.	Length Flute In.	Diam. Shank In.
7-0	\$3.85	\$2.10	.0497	.0666	1 13/16	13/16	5/64
6-0	3.85	1.95	.0611	.0806	1 15/16	15/16	3/32
5-0	3.60	1.80	.0719	.0966	2 1/16	1 3/16	7/64
4-0	3.60	1.80	.0869	.1142	2 3/16	1 3/16	1/8
3-0	3.60	1.80	.1029	.1302	2 5/16	1 5/16	9/64
2-0	3.30	1.65	.1137	.1462	2 7/16	1 7/16	5/32
0	3.10	1.20	.1287	.1638	2 15/16	1 11/16	11/64
1	3.20	1.20	.1447	.1798	2 17/16	1 13/16	3/16
2	3.30	1.50	.1605	.2008	3 1/16	1 15/16	13/64
3	3.30	1.80	.1813	.2294	3 3/16	2 1/16	15/64
4	3.60	2.10	.2071	.2604	4 1/16	2 3/16	17/64
5	3.85	2.40	.2409	.2994	4 5/16	2 13/16	5/16
6	4.70	2.70	.2773	.3540	5 1/16	3 1/16	23/64
7	5.80	3.00	.3297	.4220	6 3/16	4 1/16	13/32
8	7.45	3.60	.3971	.5050	7 3/16	5 3/16	7/16
9	9.10	4.20	.4805	.6066	8 5/16	6 1/16	9/16
10	9.90	5.40	.5799	.7216	9 5/16	6 13/16	5/8

All sizes, dimensions and styles not listed are special and subject to special prices.

Standard Center Reamers**No. 664 High Speed Steel****No. 128B Carbon Steel**

Regularly furnished with 60° inclusive angle.

Reamers with 82° inclusive angle will be furnished at regular list.

Size Cut Inches	High Speed Each	Carbon Each	Length Overall Inches	Length Shank Inches	Diameter Shank Inches
1/4	\$1.00	\$.40	1 1/2	3/4	3/16
3/8	1.15	.45	1 3/4	7/8	1/4
1/2	1.40	.55	2	1	3/8
5/8	1.75	.70	2 1/4	1	3/8
3/4	2.15	.85	2 5/8	1 1/4	1/2

No. 629 Standard Spiral Fluted Taper Bridge Reamers

With Taper Shanks—High Speed Steel



Used in pneumatic and electrical tools, on boiler, bridge, ship and general structural iron work.

Tapered on end to facilitate entering the work.

Full Diameter Inches	Each	Diam. at Point Inches	Length Overall Inches	Length of Flute Inches	Taper Shank No.
13/32	\$3.40	15/64	8 1/4	4 3/8	2
7/16	3.40	1/4	8 1/4	4 3/8	2
15/32	3.65	9/32	9	5 1/8	2
1/2	3.65	5/16	9	5 1/8	2
17/32	4.00	11/32	9	5 1/8	2
9/16	4.00	3/8	9	5 1/8	2
5/8	4.70	3/8	10	6 1/8	2
11/16	5.50	3/8	11 3/4	7 1/8	3
3/4	6.00	7/16	12	7 3/8	3
13/16	6.50	1/2	12	7 3/8	3
7/8	7.00	9/16	12	7 3/8	3
15/16	7.75	5/8	12	7 3/8	3
1	8.50	11/16	12	7 3/8	3
1 1/16	9.50	3/4	12	7 3/8	3
1 1/8	10.50	13/16	12	7 3/8	3
1 1/4	11.75	7/8	12	7 3/8	3
1 1/2	14.00	15/16	13	7 3/8	4
1 3/4	15.50	1	13	7 3/8	4
13/8	17.50	1 1/16	13	7 3/8	4
17/16	19.50	1 1/8	13	7 3/8	4
1 1/2	22.00	1 3/16	13	7 3/8	4

Can also be furnished with slabbed shanks.

No. 125 Standard Finishing Reamers

Standard Tapers—Carbon Steel



All sizes and dimensions not listed are special and subject to special prices.

Size No.	LENGTH		DIAM., IN.		Taper per Foot Inches	Price Each
	Over All	Flute	Small End	Large End		
0	3 3/4	2 1/4	.250	.367	.625	\$1.60
1	5	3	.367	.517	.600	2.00
2	6	3 1/2	.569	.745	.602	2.60
3	7 1/4	4 1/4	.775	.988	.602	3.40
4	8 1/2	5 1/4	1.017	1.289	.623	4.20
5	9 3/4	6 1/4	1.471	1.799	.630	6.60
6	12 1/4	8 1/2	2.112	2.555	.626	12.00

No. 125B Standard Finishing Reamers

With Standard Taper Shanks—Carbon Steel



No.	Length Over All Inches	Length Flute Inches	Diam. Small End Inches	Diam. Large End Inches	Taper per Ft. Inches	Price Each
0	5 1/4	2 1/4	.250	.367	.625	\$2.65
1	6 5/8	3	.367	.517	.600	2.95
2	7 3/8	3 1/2	.569	.745	.602	3.25
3	8 7/8	4 1/4	.775	.988	.602	4.45
4	10 7/8	5 1/4	1.017	1.289	.623	6.00
5	13 1/8	6 1/4	1.471	1.799	.630	10.10
6	17 1/8	8 1/2	2.112	2.555	.626	21.35

No. 1128 Reamrite Adjustable Reamers



The Reamrite Reamer does not dig, but shears, and so works without chatter. Cutting edges are supported to prevent chipping increasing its durability. Care should be taken to have shim at the back of the blade when the reamer is set for cutting.

Can be sharpened easily in an ordinary cylindrical grinder or a lathe with the aid of an electric post grinder.

Do not turn the reamer backwards in the cut because the front of the blades will chip. Must be turned forward and pulled out at the same time.

New blades are furnished ground to size. Shims furnished with blades when requested.

Size	Each	Ready Ground Blades Set of Six	Extra Nuts or Rings Each	Diameter Expands to Inches	Length Blade Inches	Length Over All Inches
AAA	\$4.00	\$1.20	\$.30	3/8 to 13/32	1 1/4	5 1/2
AA	4.00	1.20	.30	13/32 to 15/32	1 3/4	5 1/2
A	4.50	1.20	.30	15/32 to 17/32	1 7/8	5 1/2
B	4.50	1.80	.30	17/32 to 19/32	1 7/8	6
C	4.75	1.80	.30	19/32 to 21/32	2 1/8	6 1/2
D	4.75	1.80	.30	21/32 to 23/32	2 1/8	7
E	5.00	2.10	.35	23/32 to 25/32	2 5/8	7 5/8
F	5.00	2.10	.35	25/32 to 27/32	2 5/8	8 3/8
G	5.50	2.40	.40	27/32 to 15/16	2 7/8	9
H	5.80	2.40	.40	15/16 to 1 1/16	2 7/8	9 3/4
I	7.00	2.70	.45	1 1/16 to 1 1/8	3 1/8	10 5/8
J	8.00	2.70	.45	1 1/8 to 1 1/4	3 1/8	11 5/8
K	10.00	3.30	.50	1 1/4 to 1 1/2	3 1/2	12 5/8
L	11.50	3.90	.65	1 1/2 to 1 5/8	4 1/4	13
M	15.00	4.20	.70	1 5/8 to 2 1/8	5 1/4	14 1/4

Set No. R6, Reamers C to H Inclusive.....per set \$30.80

Set No. R8, Reamers A to H Inclusive.....per set 39.80

Set No. R11, Reamers A to K Inclusive.....per set 64.80

Each set is packed in oiled and polished hardwood box.

No. 1100 GTD Adjustable Blade Reamers

Critchley Type



This reamer is of the adjustable blade type and is furnished with unusually heavy blades and is capable of a wide range of adjustment. Interchangeable replacement parts are at all times obtainable.

Another feature is the use of float rings between the blades and the adjusting nuts. These equalize the pressure on the individual blades and prevent the body from ever being sprung.

Size	Each	Blades per Set	Nuts or Rings Each	Diameter In.	Length Blade In.	Length Over All In.
AAA	\$4.00	\$1.20	\$.30	3/8 - 13/32	1 1/4	5 1/2
AA	4.00	1.20	.30	13/32 - 15/32	1 3/4	5 1/2
A	4.50	1.20	.30	15/32 - 17/32	1 7/8	5 1/2
B	4.50	1.80	.30	17/32 - 19/32	1 7/8	6
C	4.75	1.80	.30	19/32 - 21/32	2 1/8	6 1/2
D	4.75	1.80	.30	21/32 - 23/32	2 1/8	7
E	5.00	2.10	.35	23/32 - 25/32	2 5/8	7 5/8
F	5.00	2.10	.35	25/32 - 27/32	2 5/8	8 3/8
G	5.50	2.40	.40	27/32 - 15/16	2 7/8	9
H	5.80	2.40	.40	15/16 - 1 1/16	2 7/8	9 3/4
I	7.00	2.70	.45	1 1/16 - 1 1/8	3 1/8	10 5/8
J	8.00	2.70	.45	1 1/8 - 1 1/4	3 1/8	11 5/8
K	10.00	3.30	.50	1 1/4 - 1 1/2	3 1/2	12 5/8
L	11.50	3.90	.65	1 1/2 - 1 5/8	4 1/4	13
M	15.00	4.20	.70	1 5/8 - 2 1/8	5 1/4	14 1/4

No. 128E Standard Expansion Hand Reamers
Carbon Steel—With Spiral Flutes



Expansion reamers are designed to increase slightly the diameter of holes and are intended only for light cuts.

Especially adapted for use in enlarging holes recessed by oil grooves or keyways.

Threaded end of reamer body is chamfered to 60° and is centered from this chamfer when originally ground.

Diam. In.	Each	Overall Lgth. In.	Lgth. Flute In.	Max. Expan- sion In.	Diam. In.	Each	Overall Lgth. In.	Lgth. Flute In.	Max. Expan- sion In.
1/4	\$3.60	3 3/8	1 1/16	.005	1 3/16	\$10.00	9 3/8	4 1/4	.010
5/16	3.70	4	1 3/4	.005	1 1/4	10.70	9 3/4	4 3/8	.010
3/8	3.85	4 1/4	1 3/4	.005	1 1/2	11.40	10 1/8	4 1/2	.010
7/16	4.00	4 1/2	1 3/4	.005	1 3/8	12.60	10 1/2	4 3/4	.010
1/2	4.10	5	1 13/16	.005	1 7/16	13.80	10 7/8	4 3/4	.010
9/16	4.40	5 1/2	2 1/8	.005	1 1/2	15.00	11 1/8	4 13/16	.010
5/8	4.80	6	2 1/2	.005	1 5/8	15.60	11 1/4	4 13/16	.012
11/16	5.30	6 3/4	2 1/2	.008	1 5/8	16.20	11 1/2	4 7/8	.012
3/4	5.80	6 3/4	2 1/2	.008	1 11/16	16.80	11 5/8	4 7/8	.012
13/16	6.30	7 1/8	3 1/16	.008	1 3/4	17.40	11 7/8	5	.012
7/8	6.90	7 1/2	3 1/16	.008	1 13/16	18.00	12 1/16	5	.012
15/16	7.50	7 7/8	3 1/16	.008	1 7/8	18.60	12 3/16	5	.012
1	8.10	8 3/8	3 3/4	.008	1 15/16	19.20	12 3/8	5	.012
1 1/16	8.70	8 1/2	4	.010	2	19.80	12 9/16	5	.012
1 1/8	9.30	9	4 1/8	.010					

Reamers for brass and bronze and other non-ferrous metals require special clearance and can be so furnished on request.

G T D Repairman's Taper Reamers



For automobile and bicycle repairs, blacksmiths, etc.

No.	Diameter, Inches At Large End	Point	Length, Inches Over All	Reamer Part	Weight Ounces	Price Each
5	1/2	1/8	5 1/2	3 1/2	2	\$1.00
6	1	3/8	6 1/2	4 1/2	5	1.50
56	1 5/16	3/16	5	3 1/16	2	1.25

No. 130A Standard Taper Shank Arbors
For Shell Reamers and Shell Drills



All sizes and dimensions not listed are special and subject to special prices.

Size No.	Each	Std. Taper Shank No.	Fitting Sizes Inches	Length Over All Inches
4	\$3.25	2	2 1/32 to 2 5/32	9
5	3.60	2	1 1/16 to 1 1/2	9 1/2
6	3.95	3	1 1/16 to 1 1/2	10
7	4.30	3	1 1/16 to 1 1/2	11
8	4.80	4	1 1/16 to 2	12
9	5.40	4	2 1/16 to 2 1/2	13
10	6.30	5	2 9/16 to 3	14

No. 130 Standard Straight Shank Arbors

For Shell Reamers and Shell Drills



All sizes and dimensions not listed are special and subject to special prices.

Size No.	Each	Fitting Sizes Inches	Length Over All Inches
4	\$2.70	2 1/32 to 2 5/32	9
5	3.00	1 1/16 to 1 1/2	9 1/2
6	3.30	1 1/16 to 1 1/2	10
7	3.60	1 1/16 to 1 1/2	11
8	4.00	1 1/16 to 2	12
9	4.50	2 1/16 to 2 1/2	13
10	5.25	2 9/16 to 3	14

Standard Straight Fluted Shell Reamers

No. 615 High Speed Steel

No. 123 Carbon Steel

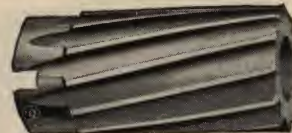


Diam. In.	High Speed Each	Carbon Each	Diam. In.	High Speed Each	Carbon Each	Diam. In.	High Speed Each	Carbon Each
3/4	\$3.85	\$2.10	2 1/16	\$13.50	\$6.60	1 1/4	16.50	8.00
13/16	4.00	2.20	2 1/8	14.25	6.95	1 1/2	17.25	8.35
7/8	4.25	2.30	2 1/4	15.00	7.30	1 3/4	18.00	8.70
15/16	4.50	2.40	2 3/16	15.75	7.65	1 3/4	18.75	9.05
1	4.75	2.50	2 1/2	16.50	8.00	1 3/4	19.50	9.40
1 1/16	5.00	2.70	2 3/4	17.25	8.35	1 3/4	20.50	9.80
1 1/8	5.25	2.90	2 3/4	18.00	8.70	1 3/4	21.75	10.20
1 1/4	5.50	3.10	2 3/4	18.75	9.05	1 3/4	23.00	10.60
1 1/2	5.75	3.30	2 3/4	19.50	9.40	1 3/4	24.25	11.00
1 5/16	6.00	3.55	2 3/4	20.50	9.80	1 3/4	25.50	11.40
1 3/8	6.50	3.80	2 3/4	21.75	10.20	1 3/4	27.00	11.80
1 7/16	7.00	4.05	2 3/4	23.00	10.60	1 3/4	28.50	12.20
1 1/2	7.50	4.30	2 3/4	24.25	11.00	1 3/4	30.00	12.60
1 5/8	8.25	4.55	2 3/4	25.50	11.40	1 3/4		
1 3/4	9.00	4.80	2 3/4	27.00	11.80	1 3/4		
1 7/8	9.75	5.10	2 3/4	28.50	12.20	1 3/4		
1 3/4	10.50	5.40	2 3/4	30.00	12.60	1 3/4		
1 5/8	11.25	5.70	2 3/4			1 3/4		
1 7/8	12.00	6.00	2 3/4			1 3/4		
1 5/8	12.75	6.30	2 3/4			1 3/4		

Standard Spiral Fluted Shell Reamers

No. 617 High Speed Steel

No. 123A Carbon Steel



Diam. In.	High Speed Each	Carbon Each	Diam. In.	High Speed Each	Carbon Each	Diam. In.	High Speed Each	Carbon Each
3/4	\$4.25	\$2.50	2 1/16	\$14.85	\$7.90	1 1/4	18.15	8.00
13/16	4.40	2.65	2 1/8	15.70	8.35	1 1/2	19.00	8.70
7/8	4.70	2.75	2 1/4	16.50	8.70	1 3/4	19.80	9.05
15/16	4.95	2.90	2 3/16	17.35	9.05	1 3/4	20.65	9.40
1	5.25	3.00	2 1/2	18.15	9.80	1 3/4	21.45	10.20
1 1/16	5.50	3.25	2 3/4	19.00	10.60	1 3/4	22.55	11.00
1 1/8	5.80	3.50	2 3/4	19.80	10.95	1 3/4	23.95	11.40
1 1/4	6.05	3.70	2 3/4	20.65	11.20	1 3/4	25.30	11.80
1 1/2	6.35	3.95	2 3/4	21.45	11.55	1 3/4	26.70	12.20
1 5/16	6.60	4.25	2 3/4	22.55	11.80	1 3/4	28.05	12.60
1 3/8	7.15	4.55	2 3/4	23.95	12.15	1 3/4	29.70	13.00
1 7/16	7.70	4.85	2 3/4	25.30	12.45	1 3/4	31.35	13.40
1 1/2	8.25	5.15	2 3/4	26.70	12.75	1 3/4		
1 5/8	9.10	5.45	2 3/4	28.05	13.05	1 3/4		
1 3/4	9.90	5.75	2 3/4	29.70	13.35	1 3/4		
1 7/8	10.75	6.10	2 3/4	31.35	13.65	1 3/4		
1 3/4	11.55	6.50	2 3/4	33.00	13.95	1 3/4		
1 5/8	12.40	6.85	2 3/4			1 3/4		
1 7/8	13.20	7.20	2 3/4			1 3/4		
1 5/8	14.05	7.55	2 3/4			1 3/4		

Brown & Sharpe Plain Milling Cutters



Cutters of less than $\frac{3}{4}$ -inch face have straight teeth.

Cutters of $\frac{3}{4}$ -inch face and over have spiral teeth.

Sizes other than listed made to order. Prices upon application.

No.	High Speed Each	Carbon Each	Diam. In.	Width Face In.	Hole In.	No.	High Speed Each	Carbon Each	Diam. In.	Width Face In.	Hole In.
M-10	\$4.50	\$2.30	2 1/4	1 1/2	7/8	M-68	\$6.90	\$3.50	3 5/8	1 1/4	
M-11	6.00	3.00	2 3/4	1	7/8	M-70	7.50	3.80	3 3/4	1 1/4	
M-14	3.10	1.60	2 1/2	3/16	1	M-71	8.10	4.10	3 7/8	1 1/4	
M-15	4.10	2.10	2 1/2	1/4	1	M-72	8.70	4.40	3 1	1 1/4	
M-16	4.30	2.20	2 1/2	5/16	1	M-73	9.90	5.00	3 1 1/4	1 1/4	
M-17	4.60	2.30	2 1/2	3/8	1	M-74	11.00	5.50	3 1 1/2	1 1/4	
M-18	4.90	2.50	2 1/2	7/16	1	M-76	13.40	6.70	3 2	1 1/4	
M-19	5.10	2.60	2 1/2	1/2	1	M-78	18.10	9.10	3 3	1 1/4	
M-21	5.60	2.80	2 1/2	5/8	1	M-104A	7.10	3.60	4 1/4	1	
M-23	6.00	3.00	2 1/2	3/4	1	M-105	7.10	3.60	4 1/4	1 1/4	
M-26	6.90	3.50	2 1/2	1	1	M-104B	7.70	3.90	4 5/16	1	
M-29	8.60	4.30	2 1/2	1 1/2	1	M-106	7.70	3.90	4 5/16	1 1/4	
M-31	10.30	5.20	2 1/2	2	1	M-104C	8.20	4.10	4 3/8	1	
M-33	12.10	6.10	2 1/2	2 1/2	1	M-107	8.20	4.10	4 3/8	1 1/4	
M-35	13.70	6.90	2 1/2	3	1	M-109	9.30	4.70	4 1/2	1 1/4	
M-61	3.80	1.90	3	3/16	1	M-112	10.20	5.10	4 5/8	1 1/4	
M-62	5.00	2.50	3	1/4	1	M-114	11.20	5.60	4 3/4	1 1/4	
M-63	5.40	2.70	3	5/16	1	M-117	13.10	6.60	4 1	1 1/4	
M-63A	5.70	2.90	3	3/8	1	M-121	17.10	8.60	4 1 1/2	1 1/4	
M-64	5.70	2.90	3	3/8	1 1/4	M-125	21.00	10.50	4 2	1 1/4	
M-65	6.00	3.00	3	7/16	1 1/4	M-128	28.90	14.50	4 3	1 1/4	
M-66	6.40	3.20	3	1/2	1 1/4	M-130	36.80	18.40	4 4	1 1/4	

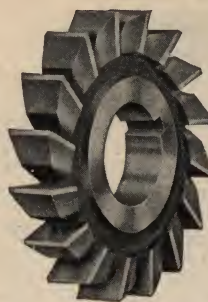
Brown & Sharpe Coarse Tooth Milling Cutters
High Speed Steel

Cutters with wide spaced teeth have a marked advantage, on many classes of work, over the usual types, as they are capable of removing a considerably greater quantity of metal in a given time without distressing the cutter or overloading the machine. They mean increased production and decreased power consumption. These cutters have spirals with considerable angle or rake.

No.	Each	Diameter Inches	Width Face Inches	Hole Inches
M-254	\$10.30	2 1/2	2	1
M-257	17.30	2 1/2	4	1
M-261	13.40	3	2	1 1/4
M-262	15.80	3	2 1/2	1 1/4
M-263	18.10	3	3	1 1/4
M-264	22.80	3	4	1 1/4
M-266	33.60	3	6	1 1/4
*M-278	21.00	4	2	1 1/2
M-279	28.90	4	3	1 1/2
M-280	36.80	4	4	1 1/2
M-282	53.90	4	6	1 1/2

*Made to order only.

Brown & Sharpe Side Milling Cutters



These cutters are often used in pairs for sizing nuts, bolt heads, etc., and are then called Straddle Milling Cutters.

They have cutting edges on both sides of the teeth as well as on the periphery.

Cutters having dimensions other than listed are special and subject to special prices.

It is recommended that milling cutters and side milling cutters more than eight inches in diameter be made with inserted teeth.

No.	High Speed Each	Carbon Each	Diameter Inches	Width Face Inches	Hole Inches
S-10	\$4.20	\$2.10	2	3/16	1/2
S-11	4.40	2.20	2	1/4	1/2
S-12	4.80	2.40	2	3/8	1/2
S-13	4.20	2.10	2	1/2	3/8
S-14	4.40	2.20	2	3/16	5/8
S-15	4.80	2.40	2	1/4	5/8
S-16	5.40	2.70	2 1/2	3/8	5/8
S-17	5.70	2.90	2 1/2	1/4	7/8
S-18	6.00	3.00	2 1/2	5/16	7/8
S-20	6.60	3.30	2 1/2	3/8	7/8
S-26	6.50	3.30	2 1/2	1/2	7/8
S-27	6.90	3.50	3	1/4	1
S-28	7.20	3.60	3	5/16	1
S-29	7.60	3.80	3	3/8	1
S-30	8.00	3.80	3	1/2	1
S-34A	9.00	4.50	4	1/2	1
S-34B	10.10	5.10	4	1/4	1
S-35	11.30	5.70	4	3/8	1
S-35A	11.30	5.70	4	1/2	1 1/4
S-36	12.30	6.20	4	5/8	1
S-38	12.30	6.20	4	5/8	1 1/4
S-39	13.30	6.70	4	3/4	1 1/4
S-39A	13.30	6.70	4	3/4	1 1/4
S-40	14.30	7.20	4	7/8	1 1/4
S-40A	14.30	7.20	4	1	1 1/4
S-40B	15.10	7.60	5	7/8	1 1/4
S-40C	15.10	7.60	5	1 1/2	1 1/4
S-41	18.20	9.10	5	1	1 1/4
S-42	18.20	9.10	5	3/4	1 1/4
S-42A	16.70	8.40	5	5/8	1
S-42B	16.70	8.40	5	5/8	1 1/4
S-44A	21.30	10.70	5	1	1 1/4
S-44B	19.70	9.90	6	1 1/2	1 1/4
S-45	24.00	12.00	6	3/4	1
S-45A	24.00	12.00	6	3/4	1 1/4
S-47B	28.40	14.20	6	1	1 1/4
S-47C	34.40	17.20	7	3/4	1 1/4
S-48	40.30	20.20	7	1	1 1/4
S-50	53.40	26.70	8	1	1 1/4

Brown & Sharpe Half Side Milling Cutters

High Speed Steel

Can be used for all side cuts where one side of the cutter only is cutting. The spiral on the top and undercut on the side give the teeth an improved cutting action.

In ordering, state whether right or left-hand cutter is wanted.



No.	Each	Diameter Inches	Width Face Inches	Hole Inches
S-354	\$13.30	4	3/4	1 1/4
S-358	18.20	5	3/4	1 1/4
S-362	24.00	6	3/4	1 1/4
S-366	28.40	6	1	1 1/2
S-370	34.40	7	3/4	1 1/2
S-374	40.30	7	1	1 1/2
S-376	53.40	8	1	1 1/2

Brown & Sharpe Staggered Tooth Right and Left Side Milling Cutters**High Speed Steel**

Because of the alternate right and left-hand spiral angles of teeth, with considerable angle of undercut, these cutters can remove a large amount of metal without destructive vibration and chatter, taking deep cuts with a good finish. The free cutting action makes possible an increased speed and feed. Cuts that would stall an ordinary cutter can be taken easily. Primarily intended for deep cuts in steel; will operate on shallow cuts.

No.	Each	Diameter In.	Width Face In.	Hole In.	No.	Each	Diameter In.	Width Face In.	Hole In.
M-350	\$6.80	2 1/2	1 1/4	7/8	M-373	\$13.40	4	1 1/2	1 1/4
M-351	7.10	2 1/2	5/16	7/8	M-374	14.10	4	1 1/2	1 1/4
M-352	7.50	2 1/2	3/8	7/8	M-376	15.40	4	5/8	1 1/4
M-353	8.30	2 1/2	1 1/2	7/8	M-378	16.60	4	3/4	1 1/4
M-358	7.80	3	3/16	1	M-380	17.90	4	7/8	1 1/4
M-359	8.10	3	1/4	1	M-382	18.90	5	1 1/2	1 1/4
M-360	8.60	3	5/16	1	M-384	20.90	5	5/8	1 1/4
M-361	9.00	3	3/8	1	M-386	22.80	5	3/4	1 1/4
M-363	10.00	3	1 1/2	1 1/4	M-390	21.80	6	3/8	1 1/4
M-365	10.80	3	5/8	1 1/4	M-392	24.60	6	1 1/2	1 1/4
M-367	11.50	3	3/4	1 1/4	M-394	27.30	6	5/8	1 1/4
M-370	11.30	4	1 1/4	1 1/4	M-396	30.00	6	3/4	1 1/4
M-371	12.00	4	5/16	1 1/4	M-398	32.80	6	7/8	1 1/4
M-372	12.60	4	3/8	1 1/4	M-399	35.50	6	1	1 1/4

Brown & Sharpe Angular Cutters

Made with 45 or 60° angle, either right or left-hand.

In ordering, state whether right or left-hand cutters are wanted.



No.	High Speed Each	Carbon Each	Diameter Inches	Thickness Inches	Hole Inches
J-10	\$6.60	\$3.30	2 1/2	1 1/2	7/8
J-11	7.20	3.60	2 3/4	1 1/2	1
J-12	8.00	4.00	3	1 1/2	1 1/4

Other sizes made to order.

With Threaded Holes

With a 60° angle. Either right or left hand.

No.	High Speed Each	Carbon Each	Diameter Inches	Thickness Inches	Hole Inches	Thread N.F.
J-35	\$5.40	\$2.70	1 1/4	7/16	3/8	24
J-36	6.10	3.10	1 5/8	9/16	1/2	20

Brown & Sharpe Corner Rounding Cutters

These corner rounding cutters have side as well as radial clearance and can be ground without changing their outline.

In ordering these cutters, state whether right or left-hand cutters are wanted.



Right-Hand

No.	High Speed Each	Carbon Each	Radius of Circle In.	Diameter In.	Hole In.
C-102	\$6.20	\$3.10	1/8	2	7/8
C-106	7.80	3.90	1/4	2 1/4	7/8
C-108	11.30	5.70	3/8	3	1
C-110	13.10	6.60	1/2	3 1/4	1
C-112	16.00	8.00	5/8	3 1/2	1

Brown & Sharpe Concave Cutters**For Milling Half Circles**

These cutters can be sharpened by grinding without changing their outline.



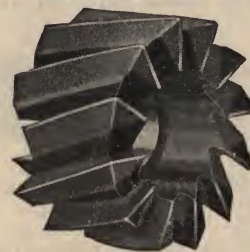
No.	High Speed Each	Carbon Each	Diameter Cutter Inches	Diameter Circle Inches	Hole Inches
D-10	\$6.20	\$3.10	2	1/8	7/8
D-11	6.80	3.40	2	3/16	7/8
D-12	7.00	3.50	2	1/4	7/8
D-13	8.50	4.30	2 1/4	5/16	7/8
D-14	8.50	4.30	2 1/4	3/8	7/8
D-15	9.00	4.50	2 1/4	1/2	7/8
D-16	9.50	4.80	2 1/4	1 1/2	7/8
D-17	12.10	6.10	2 3/4	5/8	1
D-18	14.70	7.40	3	3/4	1
D-19	16.90	8.50	3 1/4	7/8	1
D-20	18.40	9.20	3 1/4	1	1

Brown & Sharpe Convex Cutters**For Milling Half Circles**

These cutters can be sharpened by grinding without changing their outline.



No.	High Speed Each	Carbon Each	Diameter Cutter Inches	Diameter Circle Inches	Hole Inches
C-10	\$6.00	\$3.00	2	1/8	7/8
C-11	6.00	3.00	2	3/16	7/8
C-12	6.20	3.10	2	1/4	7/8
C-13	7.20	3.60	2 1/4	5/16	7/8
C-14	7.50	3.80	2 1/4	3/8	7/8
C-15	7.80	3.90	2 1/4	1/2	7/8
C-16	8.10	4.10	2 1/4	1 1/2	7/8
C-17	10.40	5.20	2 3/4	5/8	1
C-18	12.00	6.00	3	3/4	1
C-19	13.90	7.00	3 1/4	7/8	1
C-20	14.60	7.30	3 1/4	1	1

Brown & Sharpe Shell End Mills**High Speed Steel**

Left-Hand Mill

For use with arbors for shell end mills Nos. 30 1/2-C-7/8 to 31-C-7/8, Nos. 40 1/2-C-5/8 to 52-C-7/8, Nos. 600A to 604A, Nos. 611 to 618 and Nos. 619 to 625.

Left-hand end mills have left-hand spiral. Right-hand end mills have right-hand spiral.

In ordering, state whether right or left-hand mills are wanted.

No.	Each	Diameter Inches	Length Flute In.	Hole Inches
F-225	\$5.40	1 1/4	1	1 1/2
F-226	6.00	1 1/2	1 1/8	1 1/2
F-227	6.70	1 3/4	1 1/4	3/4
F-228	7.70	2	1 3/8	3/4
F-229	9.00	2 1/4	1 1/2	1
F-230	10.70	2 1/2	1 5/8	1
F-231	12.10	2 3/4	1 5/8	1
F-232	14.20	3	1 3/4	1 1/4
F-233	19.20	3 1/2	1 7/8	1 1/4
F-234	25.50	4	2 1/4	1 1/2
F-235	30.80	4 1/2	2 1/4	1 1/2
F-236	36.70	5	2 1/4	1 1/2
F-237	42.10	5 1/2	2 1/4	2
F-238	50.20	6	2 1/4	2

Brown & Sharpe Spiral Fluted End Mills

With Brown & Sharpe Taper Shanks



With Tang End

End mills with No. 5 taper shanks have plain ends, not the tang end as shown.

Left-hand end mills have left-hand spiral. Right-hand end mills have right-hand spiral.

State whether right or left-hand mills are wanted.

No.	High Speed Each	Carbon Each	Diameter Inches	Length Overall Inches	Length Flute Inches	No. of Taper
E-101	\$3.30	\$1.70	1/4	2 13/16	5/8	5
E-103	3.30	1.70	3/16	2 7/8	1 1/16	5
E-105	3.30	1.70	3/8	2 15/16	3/4	5
E-107	3.50	1.80	7/16	3 1/16	7/8	5
E-108	3.50	1.80	1/2	3 3/8	1 5/16	5
E-109	5.10	2.60	1/2	4 15/16	1 5/16	7
E-111	5.10	2.60	9/16	5	1	7
E-113	5.30	2.70	5/8	5 1/8	1 1/8	7
E-116	5.30	2.70	3/4	5 1/4	1 1/4	7
E-120	6.10	3.10	7/8	5 7/16	1 7/16	7
E-124	7.00	3.50	1	5 5/8	1 5/8	7
E-129	9.30	4.70	1 1/8	7	1 3/4	9
E-133	10.50	5.30	1 1/4	7 1/4	2	9
E-137	13.30	6.70	1 1/2	7 1/2	2 1/4	9
E-139	16.60	8.30	1 3/4	7 3/4	2 1/2	9

Other sizes made to order.

Brown & Sharpe Spiral Fluted End Mills

With Morse Taper Shanks



Left-hand end mills have left-hand spiral. Right-hand end mills have right-hand spiral.

End mills with Morse Taper shank are furnished regularly in right-hand only.

Left-hand mills can be furnished; prices upon application.

No.	High Speed Each	Carbon Each	Diameter Inches	Length Overall Inches	Length Flute Inches	No. of Taper
E-395	\$3.20	\$1.60	1/4	3 1/2	5/8	1
E-396	3.30	1.70	5/16	3 9/16	1 1/16	1
E-397	3.30	1.70	3/8	3 5/8	3/4	1
E-398	3.30	1.70	7/16	3 3/4	7/8	1
E-400	3.40	1.70	1/2	3 3/16	1 5/16	1
E-401	4.80	2.40	1/2	4 7/16	1 5/16	2
E-404	4.90	2.50	5/8	4 5/8	1 7/8	2
E-406	4.90	2.50	3/4	4 3/4	1 1/4	2
E-407	7.00	3.50	3/4	5 9/16	1 1/4	3
E-410	5.70	2.90	7/8	4 15/16	1 7/16	2
E-411	7.00	3.50	7/8	5 3/4	1 7/16	3
E-414	6.60	3.30	1	5 1/8	1 5/8	2
E-415	7.30	3.70	1	5 15/16	1 5/8	3
E-418	8.40	4.20	1 1/8	6 1/16	1 3/4	3
E-420	9.60	4.80	1 1/4	6 5/8	2	3

Brown & Sharpe Long Spiral Single-End End Mills

Straight Shank High Speed Steel



In ordering, state whether right or left hand mills are desired.

No.	Each	Diameter Inches	Length Cut Inches	Overall Length Inches	Diameter Shank Inches
E-700	\$2.00	1/8	3/8	2 3/16	3/8
E-702	2.00	3/16	1/2	2 3/8	3/8
E-704	2.00	1/4	5/8	2 1/2	3/8
E-706	2.00	5/16	3/4	2 1/2	3/8
E-708	2.00	3/8	3/4	2 1/2	3/8
E-710	2.30	7/16	1	2 11/16	3/8
E-712	2.60	1/2	1 1/4	3 1/4	1/2
E-714	3.25	5/8	1 5/8	3 3/4	5/8
E-716	3.60	3/4	1 5/8	3 3/4	5/8

Brown & Sharpe Long Two Lipped Spiral Double-End End Mills

High Speed Steel



Specify right or left hand mills.

No.	Each	Diameter Inches	Length Cut Inches	Overall Length Inches	Diameter Shank Inches
E-850	\$3.20	1/8	3/8	3	3/8
E-852	3.20	3/16	7/16	3	3/8
E-854	3.20	1/4	1/2	3	3/8
E-856	3.20	5/16	9/16	3	3/8
E-858	3.20	3/8	9/16	3	3/8
E-860	4.00	7/16	1 1/16	3 3/4	1/2
E-862	4.00	1/2	1 5/16	3 3/4	1/2
E-864	4.90	9/16	1 1/8	4 1/2	5/8
E-866	4.90	5/8	1 1/8	4 1/2	5/8
E-868	6.00	3/4	1 5/16	5	3/4

Brown & Sharpe Long Two Lipped Spiral Single-End End Mills

Straight Shank High Speed Steel



Specify right or left hand mills.

No.	Each	Diameter Inches	Length Cut Inches	Overall Length Inches	Diameter Shank Inches
E-800	\$2.20	1/8	3/8	2 3/8	3/8
E-802	2.20	3/16	3/8	2 3/8	3/8
E-804	2.20	1/4	1/2	2 3/8	3/8
E-806	2.20	5/16	9/16	2 3/8	3/8
E-808	2.20	3/8	9/16	2 3/8	3/8
E-810	2.50	7/16	1 3/16	2 1/2	3/8
E-812	2.80	1/2	1	3	1/2
E-816	3.50	5/8	1 5/16	3 7/16	5/8
E-818	3.80	3/4	1 5/16	3 7/16	5/8

Brown & Sharpe Long Spiral Double-End End Mills

High Speed Steel



Specify right or left hand.

No.	Each	Diameter Inches	Length Cut Inches	Overall Length Inches	Diameter Shank Inches
E-750	\$3.20	1/8	3/8	3 1/8	3/8
E-751	3.20	3/16	7/16	3 1/4	3/8
E-752	3.20	1/4	1/2	3 1/4	3/8
E-753	3.20	5/16	9/16	3 1/4	3/8
E-754	3.20	3/8	9/16	3 3/8	3/8
E-756	3.20	7/16	1 1/16	3 3/8	3/8
E-758	3.20	1/2	1 1/8	3 3/8	3/8
E-760	4.00	5/8	1 1/4	4 1/8	1/2
E-762	4.00	3/4	1 1/2	4 1/8	1/2
E-764	4.90	7/16	1 3/8	5	5/8
E-766	4.90	5/8	1 3/8	5	5/8
E-768	6.00	3/4	1 5/8	5 5/8	3/4

Brown & Sharpe Spiral End Mills Straight Shank



Right-Hand Mill

Diameter of shank is same as diameter of cut taken. Left-hand end mills have left-hand spiral. Right-hand end mills have right-hand spiral.

State whether right or left-hand mills are wanted.

No.	High-Speed Each	Carbon Steel Each	Diam. Inches	Length of Cut Inches	Whole Length Inches
E-650	\$1.40	\$.70	1/8	5/16	1 1/4
E-651	1.50	.80	5/32	3/16	1 1/4
E-652	1.70	.90	3/16	1/2	1 3/8
E-653	1.80	.90	7/32	9/16	1 5/8
E-654	1.80	.90	1/4	5/8	1 11/16
E-656	1.90	1.00	5/16	11/16	1 3/4
E-658	2.10	1.10	3/8	3/4	1 13/16
E-660	2.30	1.20	7/16	7/8	2 3/16
E-661	2.50	1.30	1/2	15/16	2 1/4
E-662	2.70	1.40	9/16	1	2 5/16
E-663	3.00	1.50	5/8	1 1/8	2 1/2
E-665	3.50	1.80	3/4	1 1/4	2 5/8

Brown & Sharpe High Speed Steel Two-Lipped Spiral End Mills Milling Machine Standard Taper Shank



For use with cutter adapters with cam lock. Left-hand mills have left-hand spiral; right-hand mills, right-hand spiral. In ordering, specify right or left-hand mills.

No.	Each	Diameter Inches	For Adapters with M.M. Std. Taper Hole No.	Length Cut Inches	Whole Length Inches
E-1075	\$4.10	1/4	10	3/8	1 3/4
E-1076	4.30	5/16	10	15/32	1 7/8
E-1077	4.30	3/8	10	9/16	1 15/16
E-1078	4.60	7/16	10	21/32	2 1/8
E-1079	4.60	1/2	10	3/4	2 1/8
E-1081	5.00	5/8	10	15/16	2 3/8
E-2075	5.30	1/2	20	3/4	2 11/16
E-2077	5.50	5/8	20	1 1/16	2 7/8
E-2079	5.90	3/4	20	1 1/8	3 1/16
E-2081	5.90	7/8	20	1 5/16	3 1/4
E-2083	6.70	1	20	1 1/2	3 7/16
E-3075	7.50	1	30	1 1/2	4
E-3077	9.90	1 1/4	30	1 7/8	4 3/8
E-3079	12.70	1 1/2	30	2 1/4	4 3/4

Brown & Sharpe 2-Lipped Spiral End Mills With Straight Shanks—High Speed Steel



Left-hand mills have left-hand spiral; right-hand mills, right-hand spiral. In ordering, state whether right or left-hand mills are wanted.

No.	Each	*Diameter Inches	Length Overall Inches	Length Flute Inches
E-675	\$1.90	1/4	1 1/16	3/8
E-676	2.10	5/16	1 1/16	15/32
E-677	2.20	3/8	1 5/8	9/16
E-678	2.40	7/16	2	21/32
E-679	2.80	1/2	2 1/16	3/4
E-681	3.30	5/8	2 1/16	13/16
E-683	3.60	3/4	2 1/2	1 1/8

*Shank is same diameter as cut taken.

Brown & Sharpe Woodruff Key-Seat Cutters



Shank, 1/2-inch diameter. Regularly furnished right-hand only. Left-hand cutters made to order; prices upon application.

Cutters for keys Nos. 126 to 129 inclusive, RX to VX inclusive, and 30 to 36 can be furnished in the arbor type. Prices on application.

American Standard No.	Old Standard No.	High Speed Each	Carbon Steel Each	Diam. Inches	Thickness Inches	Length Overall Inches
....	201	\$3.50	\$1.80	1/4	1/16	2 1/16
....	206	3.50	1.80	5/16	1/16	2 1/16
....	207	3.50	1.80	5/16	3/32	2 3/32
....	211	3.50	1.80	3/8	1/16	2 1/16
....	212	3.50	1.80	3/8	3/32	2 3/32
....	213	3.50	1.80	3/8	1/8	2 1/8
204	1	2.80	1.40	1/2	1/16	2 1/16
304	2	2.80	1.40	1/2	3/32	2 3/32
305	4	2.80	1.40	5/8	3/32	2 3/32
404	3	2.80	1.40	1/2	1/8	2 1/8
405	5	2.80	1.40	5/8	1/8	2 1/8
406	7	3.10	1.60	3/4	1/8	2 1/8
505	6	2.80	1.40	5/8	5/32	2 5/32
....	61	2.80	1.40	5/8	3/16	2 3/16
506	8	3.10	1.60	3/4	5/32	2 5/32
....	91	3.10	1.60	3/4	1/4	2 1/4
507	10	3.40	1.70	7/8	5/32	2 5/32
606	9	3.10	1.60	3/4	3/16	2 3/16
607	11	3.40	1.70	7/8	3/16	2 3/16
....	12	3.40	1.70	7/8	1/32	2 7/32
608	13	3.80	1.90	1	3/16	2 3/16
....	14	3.80	1.90	1	7/32	2 7/32
....	152	4.20	2.10	1	3/8	2 3/8
609	16	4.20	2.10	1 1/8	3/16	2 3/16
807	A	3.40	1.70	7/8	1/4	2 1/4
808	15	3.80	1.90	1	1/4	2 1/4
....	17	4.20	2.10	1 1/8	7/32	2 7/32
809	18	4.20	2.10	1 1/8	1/4	2 1/4
....	19	4.60	2.30	1 1/4	3/16	2 3/16
....	20	4.60	2.30	1 1/4	7/32	2 7/32
810	21	4.60	2.30	1 1/4	1/4	2 1/4
811	22	5.00	2.50	1 3/8	1/4	2 1/4
812	24	5.50	2.80	1 1/2	1/4	2 1/4
1008	B	4.00	2.00	1	5/16	2 5/16
1009	C	4.40	2.20	1 1/8	5/16	2 5/16
1010	D	4.90	2.50	1 1/4	5/16	2 5/16
1011	23	5.40	2.70	1 3/8	5/16	2 5/16
1012	25	5.90	3.00	1 1/2	5/16	2 5/16
1210	E	4.90	2.50	1 1/4	3/8	2 3/8
1211	F	5.40	2.70	1 3/8	3/8	2 3/8
1212	G	5.90	3.00	1 1/2	3/8	2 3/8

Brown & Sharpe Woodruff Key-Seat Cutters Large Sizes

No.	Each	DIAM. IN.—Key	IN.—Cutter	Thickness Diam. Inches	Diam. Hole, In.
26 and 126	2 1/8	2 5/8	3/16	3/4
27 and 127	2 1/8	2 5/8	1/4	3/4
28 and 128	2 1/8	2 5/8	5/16	3/4
29 and 129	2 1/8	2 5/8	3/8	3/4
R and RX	2 3/4	2 5/8	1/4	1
S and SX	2 3/4	2 5/8	3/16	1
T and TX	2 3/4	2 5/8	3/8	1
U and UX	2 3/4	2 5/8	7/16	1
V and VX	2 3/4	2 5/8	1/2	1
30	3 1/2	3 1/2	3/8	1
31	3 1/2	3 1/2	7/16	1
32	3 1/2	3 1/2	1/2	1
33	3 1/2	3 1/2	9/16	1
34	3 1/2	3 1/2	5/8	1
35	3 1/2	3 1/2	11/16	1
36	3 1/2	3 1/2	3/4	1



Brown & Sharpe Involute Spur Gear Cutters

Standard Hole—Standard Keyway

14½° Pressure Angle



Involute gear cutters can be sharpened without changing their outline.

Eight cutters are made for each pitch, as follows:

No. 1 will cut gears from 135 teeth to a rack.

No. 2 will cut gears from 55 to 134 teeth.

No. 3 will cut gears from 35 to 54 teeth.

No. 4 will cut gears from 26 to 34 teeth.

No. 5 will cut gears from 21 to 25 teeth.

No. 6 will cut gears from 17 to 20 teeth.

No. 7 will cut gears from 14 to 16 teeth.

No. 8 will cut gears from 12 to 13 teeth.

All gears of same pitch cut with these cutters are interchangeable.

When ordering, give the diametral pitch, number, and hole size.

Pitch	High Speed Each	Carbon Each	Diametral Cutter Inches	Hole Inches
*1	\$151.80	\$75.90	8½	2
*1¼	118.30	59.20	7¾	2
*1½	77.80	38.90	7	1¾
1¾	60.40	30.20	6½	1¾
2	44.50	22.30	5¾	1½
2½	40.00	20.00	5¾	1½
3	25.10	12.60	4¾	1¼
4	19.20	9.60	4¼	1¼
5	15.50	7.80	3¾	1¼
6	12.30	6.20	3½	1
7	10.70	5.40	2¾	1
8	10.20	5.10	2¾	1
9	9.00	4.50	2¾	1
10	8.20	4.10	2¾	7/8
11	7.90	4.00	2¾	7/8
12	7.20	3.60	2¼	7/8
14	6.90	3.50	2¼	7/8
16	6.90	3.50	2¼	7/8
18	6.20	3.10	2	7/8
20	6.20	3.10	2	7/8
22	6.20	3.10	2	7/8
24	6.00	3.00	1¾	7/8
26	5.80	2.90	1¾	7/8
28	5.80	2.90	1¾	7/8
30	5.80	2.90	1¾	7/8
32	5.80	2.90	1¾	7/8
36	5.80	2.90	1¾	7/8
40	5.80	2.90	1¾	7/8
48	5.80	2.90	1¾	7/8

*Special gear cutters. When ordering, give diametral pitch, pressure angle, hole size, and number of teeth to be cut.

Cutters for pitches not given in above list will be made to order.

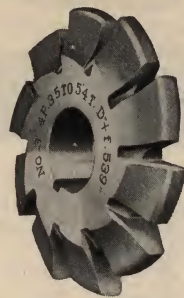
The above cutters are designed so that their forms are correct for the lowest number of teeth in each range. If, when cutting gears with a number of teeth near the higher end of the range, a more accurate tooth form is desired, cutters in half numbers from one to eight pitch inclusive can be furnished as follows:

- No. 1½ will cut gears from 80 to 134 teeth.
- No. 2½ will cut gears from 42 to 54 teeth.
- No. 3½ will cut gears from 30 to 34 teeth.
- No. 4½ will cut gears from 23 to 25 teeth.
- No. 5½ will cut gears from 19 to 20 teeth.
- No. 6½ will cut gears from 15 to 16 teeth.
- No. 7½ will cut 13 teeth.

Prices for half numbers upon application.

For a still greater degree of accuracy, cutters designed for the exact number of teeth can be furnished. Prices upon application.

Brown & Sharpe Involute Spur Gear Cutters



In ordering specify diametral pitch and number of cutter.

For Use on No. 3 Automatic Gear Cutting Machines

Diametral Pitch Inches	High Speed Each	Carbon Each	Diameter of Cutter Inches	Hole Inches
4	\$16.40	\$8.20	3⅝	1
5	14.30	7.20	3⅝	1
6	12.30	6.20	3⅝	1
7	10.70	5.40	2⅞	1
8	10.20	5.10	2⅞	1
9	9.00	4.50	2¾	1
10	9.00	4.50	2¾	1
11	8.60	4.30	2⅝	1
12	8.60	4.30	2⅝	1
14	7.60	3.80	2¼	1
16	7.60	3.80	2¼	1
18	7.60	3.80	2⅝	1
20	7.60	3.80	2⅝	1
22	6.90	3.50	2¼	1
24	6.90	3.50	2¼	1

For Use on Nos. 4 and 13H Automatic Gear Cutting Machines

3	\$25.10	\$12.60	4¾	1¼
4	19.20	9.60	4¼	1¼
5	15.50	7.80	3¾	1¼
6	13.40	6.70	3½	1¼
7	12.60	6.30	3⅝	1¼
8	11.10	5.60	3¼	1¼
9	10.70	5.40	3¼	1¼
10	9.80	4.90	3	1¼
12	9.40	4.70	2⅞	1¼

For Use on No. 5 Automatic Gear Cutting Machines

2	\$44.50	\$22.30	5¾	1½
2½	40.00	20.00	5¾	1½
3	29.00	14.50	5¼	1½
4	20.70	10.40	4½	1½
5	18.00	9.00	4¼	1½
6	15.70	7.90	3⅝	1½

For Use on No. 6 Automatic Gear Cutting Machines

1¾	\$60.40	\$30.20	6½	1¾
2	52.60	26.30	6½	1¾
2½	47.30	23.70	6⅝	1¾
3	35.50	17.80	5⅝	1¾
4	22.20	11.10	4¾	1¾
5	19.40	9.70	4⅝	1¾
6	16.80	8.40	4¼	1¾

Mitre and Bevel Gear Cutters

Will cut bevel gear with tooth face not longer than ⅓ distance from outer end to point where shaft center lines meet. Cutters for pitches not shown are made to order.

Diametral Pitch Inches	High Speed Each	Carbon Each	Diameter of Cutter Inches	Hole Inches
3	\$19.90	\$10.00	4	1¼
4	16.40	8.20	3⅝	1¼
5	14.30	7.20	3⅝	1¼
6	12.30	6.20	3⅝	1
7	10.70	5.40	2⅞	1
8	10.20	5.10	2⅞	1
10	8.20	4.10	2⅞	7/8
12	7.20	3.60	2¼	7/8
14	6.90	3.50	2⅞	7/8
16	6.90	3.50	2⅞	7/8
20	6.20	3.10	2⅞	7/8
24	6.00	3.00	2	7/8
			1¾	7/8

Brown & Sharpe Arbors for Shell End Mills

For Use with Cutter Adapters with Cam Lock Having No. 30 Milling Machine Standard Taper Hole and with Shell End Mills Nos. F-225 to F-231, Inclusive

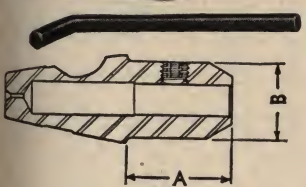


Cutter is placed on arbor in regular manner and arbor is driven by locking cam which engages flat surface of groove in shank.

No.	30 1/2-C-7/8	30 3/4-C-7/8	31-C-7/8
Each	\$18.00	18.00	18.00
Diam. Hole in End Mill, in.	1/2	3/4	1
Dimensions A, in.	7/8	7/8	7/8

Brown & Sharpe Cutter Adapters

For cutter adapters and milling attachment spindles with cam lock.



Designed to accommodate straight shank end mills. Adapters having 3/8 and 1/2-inch holes accommodate both single-end and double-end mills. Adapters having 5/8 and 3/4-inch holes accommodate single-end end mills only.

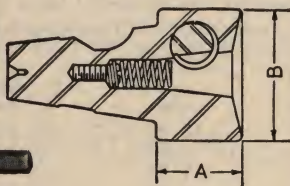
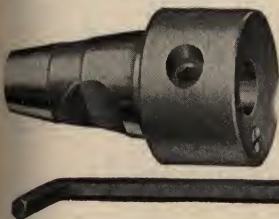
Safety set screw holds shank of end mill or adapter bushing securely in adapter.

No.	Each	For Use with Adapters Having M.M. Std. Taper Hole, No.	Diam. of Hole, in.	DIMEN., IN.	
				A	B
30 3/8	\$10.00	30	3/8	1 1/2	1
30 1/2	10.00	30	1/2	1 5/8	1 1/8
*30 5/8	10.00	30	5/8	1 7/8	1 3/8
*30 3/4	10.00	30	3/4	2 1/16	1 3/8

*Accommodates single-end end mills only.

Brown & Sharpe Cutter Adapters

PATENTED



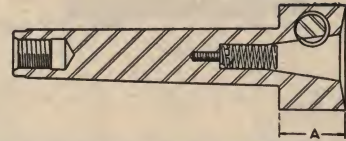
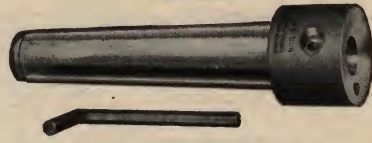
For use with cutter adapters and milling attachment spindles with cam lock to accommodate Brown & Sharpe end mills, etc., having milling machine standard taper shanks.

No.	30-10-1 1/4	30-20-1 1/2
Each	\$24.00	24.00
For Use in M.M. Std. Taper Hole, No.	30	30
For End Mills, Etc., with M.M. Std. Taper Shank, No.	10	20
Dimensions:		
A, inches	1 1/8	1 3/8
B, inches	1 3/4	2 1/4

Brown & Sharpe Cutter Adapters

For Use on Brown & Sharpe Milling Machines Having Either Taper or Threaded Nose Spindle, to Accommodate Brown & Sharpe End Mills, Arbors, and Adapters Having Milling Machine Standard Taper Shanks

PATENTED



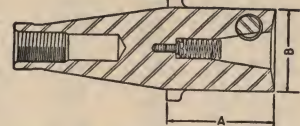
The locking cam draws cutter securely to a seat and furnishes a positive drive, the surface of cam engaging flat surface of groove in shank of cutter.

Shank of end mill is held from contact with walls of taper hole in adapter by a spring until cam engages groove in shank. Draw-in bolt draws adapter securely into spindle.

No.	Each	Dimen. A, Inches	For Use with Spindle Having B&S Taper Hole, No.	For End Mills Etc., with M.M. Std. Taper Shank, No.
9 B & S-10-2	\$30.00	1 5/8	9	10
9 B & S-20-2	30.00	1 5/8	9	20
9 B & S-30-2	30.00	2	9	30
10 B & S-10-2	30.00	1 11/16	10	10
10 B & S-20-2	30.00	1 5/8	10	20
10 B & S-30-2 1/2	30.00	2 1/8	10	30
11 B & S-10-2	30.00	1 5/8	11	10
11 B & S-20-2	30.00	1 5/8	11	20
11 B & S-30-2	30.00	1 5/8	11	30

Brown & Sharpe Cutter Adapters

PATENTED



For use on milling machines having standardized spindle end, to accommodate Brown & Sharpe end mills, arbors, and adapters, having milling machine standard taper shanks.

A special feature is the locking cam which draws cutter securely to a seat and furnishes a positive drive, the surface of cam engaging flat surface of groove in shank of cutter.

Shank of end mill is held from contact with walls of taper hole in adapter by a spring until cam engages groove in shank. Draw in bolt draws adapter securely into standardized spindle end.

No.	Each	For Spindle with M.M. Std. Taper Hole, No.	For End Mills, Etc., with M.M. Std. Taper Shank, No.	DIMEN., IN. A B	Threaded Hole
40-10-1 1/2	\$25.00	40	10	1 5/8 1 3/4	5/8" 11 N.C., R.H.
40-20-1 1/2	25.00	40	20	1 5/8 2 1/4	5/8" 11 N.C., R.H.
40-30-1 1/2	25.00	40	30	1 5/8 2 3/4	5/8" 11 N.C., R.H.
50-10-1 3/4	30.00	50	10	1 3/4 1 3/4	1 " 8 N.C., R.H.
50-20-1 3/4	30.00	50	20	1 7/8 2 1/4	1 " 8 N.C., R.H.
50-30-1 3/4	30.00	50	30	1 7/8 2 3/4	1 " 8 N.C., R.H.
50-10-3 1/2	30.00	50	10	3 1/2 1 3/4	1 " 8 N.C., R.H.
50-20-3 1/2	30.00	50	20	3 5/8 2 1/4	1 " 8 N.C., R.H.
50-30-3 1/2	30.00	50	30	3 5/8 2 3/4	1 " 8 N.C., R.H.

Brown & Sharpe Cutter Arbors

Sizes from No. 6 to No. 12 have two sleeves, one small and one large, which are necessary to obtain maximum expansion. Price of two sleeves is $\frac{3}{4}$ price shown and price of one sleeve only is $\frac{1}{2}$ price of complete mandrel.

Atkins High Speed Silver Steel Metal Milling or Slitting Saws

Cup-Wheel Ground

For cutting 10-20 cold roll or chrome-nickel and tool steel on any type milling machine.

Has hardness of 61-63 Rockwell C scale. Can be re-sharpened with grinding wheel.

Operates at 60 rpm., 8 inches per minute.

Available in diameters from 4 to 12 inches.

Can take high speed and feed without breaking up chip. Chip is thrown clear of gullet, so it is not dragged back into cut.

Prices upon application.

Brown & Sharpe Metal Slitting Saws

These are thin milling cutters. They are ground on the sides and left a little thicker at the outer edge than near the center to give a proper clearance in cutting deep slots.

In ordering special saws, state for what purpose they are required.

2 1/2-Inch Diameter

No.	High Speed Each	Carbon Each	Thick In.	Hole In.
G-50	\$2.80	\$1.40	1/32	7/8
G-51	2.80	1.40	3/64	7/8
G-52	2.80	1.40	1/16	7/8
G-53	2.80	1.40	3/32	7/8
G-54	2.90	1.50	1/8	7/8

3-Inch Diameter

G-56	\$3.30	\$1.70	1/32	1
G-57	3.30	1.70	3/64	1
G-58	3.40	1.70	1/16	1
G-59	3.40	1.70	3/32	1
G-60	3.50	1.80	1/8	1
G-61	3.70	1.90	5/32	1

4-Inch Diameter

G-62	\$4.30	\$2.20	1/32	1
G-63	4.40	2.20	3/64	1
G-64	4.50	2.30	1/16	1
G-65	4.70	2.40	3/32	1
G-66	5.00	2.50	1/8	1

4-Inch Diameter

No.	High Speed Each	Carbon Each	Thick In.	Hole In.
G-67	\$5.20	\$2.60	5/32	1
G-68	5.50	2.80	3/16	1

5-Inch Diameter

G-69	\$5.80	\$2.90	1/16	1
G-70	6.30	3.20	3/32	1
G-71	6.60	3.30	1/8	1
G-72	6.60	3.30	1/8	1 1/4
G-74	7.00	3.50	5/32	1
G-75	7.40	3.70	3/16	1

6-Inch Diameter

G-76	\$7.30	\$3.70	1/16	1
G-77	8.40	4.20	3/16	1
G-78	8.60	4.30	1/8	1
G-78A	8.60	4.30	1/8	1 1/4
G-80	10.40	5.20	3/16	1

8-Inch Diameter

G-84	\$17.50	\$8.80	1/8	1
G-85	17.50	8.80	1/8	1 1/4
G-86	19.80	9.90	3/16	1 1/4



Brown & Sharpe Screw Slotting Cutters

Especially adapted to slotting of screw heads and similar work.

High speed steel cutters only have ground sides.

High speed steel cutters with 1-inch hole can be furnished with 56 teeth.

2 3/4-Inch Diameter—72 Teeth

No.	High Speed Each	Hole Inches	Carbon Each	Hole Inches	Gage No. Amer. Std.	Thick-ness Cutter In.
H-10	...	1	\$1.15	1	5	.182
H-11	\$3.20	1	.95	1	6	.162
H-12	3.00	1	.85	1	7	.144
H-13	2.75	3/4, 1	.70	3/4, 1	8	.128
H-14	2.50	3/4, 1	.65	3/4, 1	9	.114
H-15	2.30	3/4, 1	.60	3/4, 1	10	.102
H-16	2.05	3/4, 1	.55	3/4, 1	11	.091
H-17	1.90	3/4, 1	.55	3/4, 1	12	.081
H-18	1.90	3/4, 1	.55	3/4, 1	13	.072
H-19	1.80	3/4, 1	.55	1/2, 5/8, 3/4, 1	14	.064
H-20	1.70	3/4, 1	.50	1/2, 5/8, 3/4, 1	15	.057
H-21	1.60	3/4, 1	.50	1/2, 5/8, 3/4, 1	16	.051
H-22	1.55	3/4, 1	.35	1/2, 5/8, 3/4, 1	17	.045
H-23	1.50	3/4, 1	.35	1/2, 5/8, 3/4, 1	18	.040
H-24	1.50	3/4, 1	.35	1/2, 5/8, 3/4, 1	19	.036
H-25	1.50	3/4, 1	.35	1/2, 5/8, 3/4, 1	20	.032
H-26	1.50	3/4, 1	.30	1/2, 5/8, 3/4, 1	21	.028
H-27	1.50	3/4, 1	.30	1/2, 5/8, 3/4, 1	22	.025
H-28	1.50	3/4, 1	.30	1/2, 5/8, 3/4, 1	23	.023
H-29	1.50	3/4, 1	.30	1/2, 5/8, 3/4, 1	24	.020
H-30	...	...	.30	1/2, 5/8, 3/4, 1	25	.018
H-31	...	...	.30	3/4, 1	26	.016
H-32	...	...	.30	3/4, 1	27	.014
H-33	...	...	.30	3/4, 1	28	.013
H-34	...	...	.30	3/4, 1	30	.010
H-35	...	...	.30	3/4, 1	32	.008
H-36	...	...	.30	3/4, 1	34	.006

2 1/4-Inch Diameter—60 Teeth

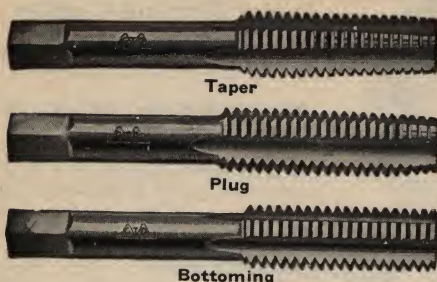
H-36A	...	5/8	\$1.75	5/8	10	.102
H-36B	...	5/8	.50	5/8	11	.091
H-36C	...	5/8	.50	5/8	12	.081
H-36D	...	5/8	.35	5/8	13	.072
H-36E	...	5/8	.35	5/8	14	.064
H-36F	1.60	5/8	.30	5/8	15	.057
H-36G	1.50	5/8	.30	5/8	16	.051
H-36H	1.50	5/8	.30	5/8	17	.045
H-36J	1.45	5/8	.30	5/8	18	.040
H-37	1.45	5/8	.30	5/8	19	.036
H-38	1.45	5/8	.30	5/8	20	.032
H-39	1.45	5/8	.30	5/8	21	.028
H-40	1.45	5/8	.30	5/8	22	.025
H-41	1.45	5/8	.30	5/8	23	.023
H-42	...	5/8	.30	5/8	24	.020
H-43	...	5/8	.30	5/8	25	.018
H-44	...	5/8	.30	5/8	26	.016
H-45	...	5/8	.30	5/8	27	.014
H-46	...	5/8	.30	5/8	28	.013
H-47	...	5/8	.30	5/8	30	.010
H-48	...	5/8	.30	5/8	32	.008

1 3/4-Inch Diameter—90 Teeth

H-49	\$1.75	5/8	.30	5/8	14	.064
H-50	1.60	5/8	.30	5/8	15	.057
H-51	1.50	5/8	.30	5/8	16	.051
H-52	1.50	5/8	.30	5/8	17	.045
H-53	1.45	5/8	.30	5/8	18	.040
H-54	1.45	5/8	.30	5/8	19	.036
H-55	1.45	5/8	.30	5/8	20	.032
H-56	1.45	5/8	.30	5/8	21	.028
H-57	1.45	5/8	.30	5/8	22	.025
H-58	1.45	5/8	.30	5/8	23	.023
H-59	1.45	5/8	.25	5/8	24	.020
H-60	...	5/8	.25	5/8	25	.018
H-61	...	5/8	.25	5/8	26	.016
H-62	...	5/8	.25	5/8	27	.014
H-63	...	5/8	.25	5/8	28	.013
H-64	...	5/8	.25	5/8	30	.010
H-65	...	5/8	.25	5/8	32	.008
H-66	...	5/8	.25	5/8	34	.006

We are in position to furnish practically everything used in factory, mill or shop.

GTD Standard Hand Taps



Sizes, $\frac{1}{16}$ to $\frac{3}{8}$ inch have shanks full diameter of thread.

Sizes $\frac{1}{16}$ -inch and larger have shanks smaller than root diameter of thread. Left-hand taps are special.

High Speed Steel

No. 5303 Tru-Lede Commercial Ground Thread
No. 6303 Cut Thread
No. 7303 Precision Ground Thread

Cut thread will be furnished unless ground thread is specified. Tru-Lede commercial ground thread will be furnished unless precision ground thread is specified. If precision ground thread is wanted, specify limit number.

Diam. Tap In.	Nos. 5303 Each	No. 7303 Each	THREADS PER INCH			No. Flutes	Lgth. Over- all In.
			N.C.	N.F.	N.S.		
$\frac{1}{4}$	\$.85	\$.85	20	28	..	4	2 1/2
$\frac{5}{16}$	.95	.95	18	24	..	4	2 3/32
$\frac{3}{8}$	1.10	1.10	16	24	..	4	2 15/16
$\frac{7}{16}$	1.30	1.30	14	20	..	4	3 3/32
$\frac{1}{2}$	1.55	1.55	13	20	..	4	3 3/8
$\frac{9}{16}$	1.85	1.85	12	18	..	4	3 13/32
$\frac{5}{8}$	2.20	2.20	11	18	..	4	3 13/16
$\frac{11}{16}$	2.60	..	..	..	11, 16	4	4 1/2
$\frac{3}{4}$	3.10	3.10	10	16	..	4	4 1/4
$\frac{7}{8}$	4.30	4.30	9	14	..	4	4 11/16
1	5.75	5.75	8	14	..	4	5 1/8
$\frac{1}{8}$	7.45	..	7	12	..	4	5 7/16
$\frac{1}{4}$	9.55	..	7	12	..	4	5 3/4
$\frac{3}{8}$	11.95	..	6	12	..	4	6 1/16
$\frac{1}{2}$	14.75	..	6	12	..	4	6 3/8
10 m/m 1 Metric Tru-Lede Commercial Ground Thread Spark Plug Tap.....each							
14 m/m 1.25 Metric Tru-Lede Commercial Ground Thread Spark Plug Tap.....each \$1.85							
18 m/m 1.50 Metric Tru-Lede Commercial Ground Thread Spark Plug Tap.....each 3.10							

No. 303 Carbon Steel

Furnished with National or Whitworth form of thread in taper, plug, or bottoming style at regular prices, except those having threads per inch (*), which are regularly furnished in plug or bottoming styles only.

Diam. Tap Inches	Each	Per Set	THREADS PER INCH					Whit- worth Std.	Brit. Std. Fine	No. Flutes	Lgth. Over- all In.
			N.C.	N.F.	N.S.						
1/16	\$.50	\$1.50	..	..	64	60	..	3	1 15/8
3/32	.40	1.20	..	..	48	48	..	3	1 3/4
1/8	.35	1.05	..	..	40	40	..	3	1 11/16
5/32	.35	1.05	..	..	32,36	32	..	4	2 1/16
3/16	.40	1.20	..	..	24,32	24	..	4	2 3/8
7/32	.45	1.35	..	..	24,32	24	..	4	2 5/8
1/4	.45	1.35	20	28	*24,*27,*32	20	26	4	2 1/2		
5/16	.50	1.50	18	24	*20,*27,*32	18	22	4	2 23/32		
3/8	.55	1.65	16	24	*20,*27	16	20	4	2 15/16		
7/16	.60	1.80	14	20	*24,*27	14	18	4	3 3/32		
1/2	.70	2.10	13	20	*12,*24,*27	12	16	4	3 3/8		
9/16	.80	2.40	12	18	*27	12	16	4	3 13/32		
5/8	.90	2.70	11	18	*12,*27	11	14	4	3 13/16		
11/16	1.05	3.15	..	..	11,16	11	14	4	4 1/32
3/4	1.20	3.60	10	16	*12,*27	10	12	4	4 1/4		
7/8	1.60	4.80	9	14	*12,*27	9	11	4	4 11/16		
1	2.00	6.00	8	14	*12,*27	8	10	4	5 1/8		
1 1/8	2.25	6.75	7	12	.....	7	9	4	5 7/16	
1 1/4	2.60	7.80	7	12	.....	7	9	4	5 3/4	
1 3/8	3.00	9.00	6	12	.....	6	8	4	6 1/16	
1 1/2	3.50	10.50	6	12	.....	6	8	4	6 3/8	
1 5/8	4.20	12.60	..	..	5 1/2	5	..	6	6 11/16
1 3/4	5.00	15.00	5	..	.....	5	..	6	7
1 7/8	5.80	17.40	..	..	5	4 1/2	..	6	7 1/16
2	6.70	20.10	4 1/2	..	.....	4 1/2	..	6	7 7/8
10 m/m 1 Metric Spark Plug Tap.....each \$.55											
14 m/m 1.25 Metric Spark Plug Tap.....each .80											
18 m/m 1.50 Metric Spark Plug Tap.....each 1.05											

GTD Gun Taps

High Speed Steel

No. 5301—Tru-Lede Commercial Ground Thread
No. 6301—Cut Thread
No. 7301—Precision Ground Thread

No. 301 Carbon Steel



As gun tap flutes are not required for chip passage, they can be made very shallow. The cutting is done by the first few teeth. As the grinding is done entirely on the angular cutting edge, the tap will last a long time and cut to size until it has been ground down to the last 3 or 4 teeth.

Furnished in plug style only. Taps to and including $\frac{3}{8}$ -inch supplied with shanks full diameter of thread. Taps $\frac{1}{16}$ -inch and larger supplied with shanks smaller than root diameter of thread.

National Coarse (N.C.) threads furnished unless otherwise specified.

Sizes and dimensions not listed are special.

Left-hand gun taps are special.

Diam. In.	High Speed Each	Carbon Each	THREADS PER INCH			No. Flutes	Lgth. Over- all In.
			N.C.	N.F.	N.S.		
$\frac{1}{8}$	..	\$ .45	..	..	40	2	1 15/16
$\frac{3}{16}$	..	.50	..	..	24, 32	2	2 3/8
$\frac{1}{4}$	\$.95	.55	20	28	..	2	2 1/2
$\frac{5}{16}$	1.05	.60	18	24	..	2	2 3/4
$\frac{3}{8}$	1.25	.70	16	24	..	3	2 15/16
$\frac{7}{16}$	1.45	.75	14	20	..	3	3 3/32
$\frac{1}{2}$	1.70	.85	13	20	..	3	3 3/8

*Furnished in carbon steel only.

GTD Standard Machine Screw Taps



With National form of thread and standard number of flutes in taper, plug, or bottoming style at regular prices. When specified with an optional number of flutes as listed, plug or bottoming styles only furnished at regular prices. Sizes, dimensions and left-hand taps not listed are special.

High Speed Steel

No. 5305 Tru-Lede Commercial Ground Thread
No. 6305 Cut Thread
No. 7305 Precision Ground Thread

Cut thread furnished unless Tru-Lede is specified.

Screw Gage No.	Nos. 5305 Each	Basic Major Diam. In.	THREADS PER INCH			No. FLUTES	Lgth. Over- all In.
			N.C.	N.F.	N.S.	Std. Optional	
0	\$2.40	.060	80	..	..	2	1 15/16
1	2.20	.073	64	72	56	2	1 3/4
2	2.05	.086	56	64	..	3	1 3/4
3	\$.85	.099	48	56	..	3	1 15/16
4	.70	.112	40	48	36	3	1 7/8
5	.70	.125	40	44	..	3	1 15/16
6	.70	.130	32	40	..	3	2
8	.70	.164	32	36	..	4	2 3/8
10	.75	.190	24	32	..	4	2 3/8
12	.80	.216	24	28	..	4	2 3/8
14	.85	.242	..	..	20, 24	4	2 1/2
No. 305 Carbon Steel							
Screw Gage No.	Each	Basic Major Diam. In.	THREADS PER INCH			No. FLUTES	Lgth. Over- all In.
			N.C.	N.F.	N.S.	Std. Optional	
0	\$.50	.060	80	..	..	2	1 15/16
1	.50	.073	64	72	56	2	1 11/16
2	.45	.086	56	64	..	3	1 3/4
3	.40	.099	48	56	..	3	1 15/16
4	.40	.112	40	48	32, 36	3	1 7/8
5	.35	.125	40	44	..	3	1 15/16
6	.35	.138	32	40	36	3	2
8	.35	.164	32	36	40	4	2 3/8
10	.40	.190	24	32	30	4	2 3/8
12	.45	.216	24	28	32	4	2 3/8
14	.45	.242	..	..	20, 24	4	2 1/2

When ordering, specify style and number of threads per inch.

GTD Machine Screw Gun Taps

High Speed Steel

No. 5301 Tru-Lede Commercial Ground Thread

No. 6301 Cut Thread

No. 7301 Precision Ground Thread

No. 301 Carbon Steel



These taps furnished in plug style only and have 2 flutes. Cut thread furnished unless ground thread specified. Furnished in American National form of thread.

Screw Gage No.	High Speed Nos. 5301 and 6301 Each	No. 7301 Each	No. 301 Carbon Each	Basic Major Diam. In.	THREADS PER INCH			LENGTH, INCHES	
					N.C.	N.F.	N.S.	Full Thread	Over- all
3	.95	\$1.60	.60	.099	48	56	..	1 1/2	1 13/16
4	.80	1.40	.50	.112	40	48	36	3/16	1 7/8
5	.80	1.40	.45	.125	40	44	..	5/8	1 15/16
6	.80	1.40	.45	.138	32	40	..	1 1/16	2
8	.80	1.40	.45	.164	32	36	..	3/4	2 1/8
10	.85	1.45	.50	.190	24	32	..	7/8	2 3/8
12	.90	1.50	.55	.216	24	28	..	1 5/16	2 3/8
14	.95	....	.55	.242	..	..	20, 24	1	2 1/2

GTD Nut Taps

High Speed Steel

No. 5306 Tru-Lede Commercial Ground Thread

No. 6306 Cut Thread

No. 306 Carbon Steel



Designed primarily for production in small quantities, and used extensively for tapping operations in bolt cutters, drill presses, etc.

N. C. threads furnished unless otherwise specified.

Sizes and dimensions not listed are special.

Left-hand taps are special.

Diam. Tap In.	High Speed Each	Carbon Each	THREADS PER INCH			LENGTH THREAD INCHES			Lgth. Over- all In.
			N.C.	N.F.	Std.	*Whit. Std.	*Whit. Std.	N.F.	
1/4	\$1.50	\$.60	20	28	20	1 5/8	1 1/4	4	5
5/16	1.70	.70	18	24	18	1 13/16	1 3/8	4	5 1/2
3/8	2.00	.80	16	24	16	2	1 1/2	4	6
7/16	2.40	.90	14	20	14	2 3/8	1 3/4	4	6 1/2
1/2	2.70	1.00	13	20	12	2 1/2	1 7/8	4	7
9/16	3.35	1.15	12	18	12	2 3/4	2	4	7 1/2
5/8	4.05	1.35	11	18	11	3	2 1/4	4	8
3/4	5.65	1.85	10	16	10	3 1/4	2 1/2	4	9
7/8	7.90	2.45	9	14	9	3 5/8	2 3/4	4	10
1	10.55	3.15	8	14	8	4	3	4	11

*Whitworth Standard furnished in carbon steel only.

GTD "Maxi" Heat Treatment



All High Speed Steel Taps can be furnished with Greenfield's "Maxi" surface treatment at no extra cost.

This exclusive process gives high speed tools a hard outside surface, which makes them extraordinarily resistant to wear when working in metals, compositions, etc., with gritty or abrasive characteristics that soon destroy the accuracy of ordinary high speed tools.

GTD Pulley Taps



For tapping set screw and oil cup holes in hubs of pulleys. Of varying lengths to work in pulleys of different diameter since it has to tap through hole in the rim.

Shanks made full size of threads and serve as guide.

Furnished with National form of threads in plug style only. Cut thread taps, will be furnished unless Tru-Lede commercial ground thread are specified. Has 4 flutes.

Sizes, dimensions, taper and bottoming taps, left-hand taps, and precision ground thread taps are special.

High Speed Steel

No. 5308 Tru-Lede Commercial Ground Thread

No. 6308 Cut Thread

Diam. Tap In.	LENGTH, OVER ALL, INCHES					Threads per Inch N.C.	Diam. Shank In.	Size Square In.	Lgth. Thread In.
	6	8	10	12	14				
1/4	\$1.70	\$2.25	....	....	....	20	.255	.191	1
5/16	1.70	2.30	....	....	....	18	.318	.238	1 1/8
3/8	2.00	2.60	\$3.20	....	....	16	.381	.286	1 1/4
7/16	2.10	2.75	3.50	\$4.10	....	14	.444	.333	1 1/16
1/2	2.25	3.10	3.75	4.40	....	13	.507	.380	1 1/2
5/8	2.90	4.10	5.00	5.80	\$6.60	11	.633	.475	1 3/2
3/4	....	....	6.10	7.10	8.10	10	.759	.569	2

No. 308 Carbon Steel

Diam. Tap In.	LENGTH, OVER ALL, INCHES					Threads per Inch N.C.	Diam. Shank In.	Size Square In.	Lgth. Thread In.
	6	8	10	12	14				
1/4	\$.65	\$.70	....	....	....	20	.255	.191	1
5/16	.70	.75	....	....	....	18	.318	.238	1 1/8
3/8	.80	.85	\$.90	....	....	16	.381	.286	1 1/4
7/16	.85	.95	1.00	\$1.05	....	14	.444	.333	1 1/16
1/2	.95	1.05	1.10	1.15	....	13	.507	.380	1 1/2
5/8	1.10	1.35	1.40	1.50	\$1.65	11	.633	.475	1 3/2
3/4	....	....	1.85	1.95	2.00	10	.759	.569	2

GTD Tapper Taps

High Speed Steel

No. 5307—Tru-Lede Commercial Ground Thread

No. 6307—Cut Thread

No. 307 Carbon Steel



Furnished with long shanks and short threads; as succeeding nuts are tapped they run up on shank until full.

Furnished with plain round shanks. Furnished with any of the following standard shanks at additional cost: Squared, Flatted, Acme Improved, National Interchangeable Ring Lock.

N.C. thread furnished unless otherwise specified.

Sizes and dimensions not listed are special.

Left-hand taps are special.

Diam. Tap In.	High Speed		Carbon		THREADS PER INCH			No. of FLUTES Op- tional	LENGTH OF THREAD INCHES	
	12-In. Lgth. Each	15-In. Lgth. Each	12-In. Lgth. Each	15-In. Lgth. Each	N.C.	N.F.	Whit.		N.C. and Whit.	N.F.
1/4	\$3.25	....	\$.75	....	20	28	20	3	1 1/4	1
5/16	3.35	....	.85	....	18	24	18	3	1 3/8	1 1/16
3/8	3.80	....	.95	....	16	24	16	3	1 9/16	1 1/8
7/16	4.10	....	1.05	....	14	20	14	3	1 11/16	1 3/8
1/2	4.40	\$5.30	1.15	1.35	13	20	12	3	1 7/8	1 3/8
9/16	5.00	6.20	1.35	1.55	12	18	12	4	2 1/8	1 1/2
5/8	5.80	7.00	1.50	1.75	11	18	11	4	2 5/16	1 11/16
3/4	7.10	8.60	1.95	2.10	10	16	10	4	2 1/2	1 3/4
7/8	9.20	11.15	2.50	2.75	9	14	9	4	2 3/4	1 7/8
1	11.30	13.55	3.30	3.65	8	14	8	4	3 1/8	2 1/8
1 1/8	....	....	....	4.15	7	12	7	4	3 1/2	2 3/8
1 1/4	....	....	....	5.10	7	12	7	4	3 3/2	2 3/8
1 3/8	....	....	....	6.00	6	12	6	4	4	2 5/8
1 1/2	....	....	....	7.35	6	12	6	4	4	2 5/8

GTD Bent Shank Tapper Taps

Designed for use in the automatic tapping machines manufactured by National Machinery Co.

Furnished with American National form of thread.

Sizes and dimensions not listed are special. Left-hand taps are special.

High Speed Steel

No. 5352—Tru-Lede Commercial Ground Thread
No. 6352—Cut Thread

Diam. Tap In.	Size Machine In.	THREADS PER INCH		No. of Flutes	LENGTH OF THREAD NOT INCL. POINT INCHES		Lgth. Overall Before Bending Incl. Point, In.	Cut Thread Each	Tru-Lede Commercial Ground Thread Each
		N.C.	N.F.		N.C.	N.F.			
1/4	1/4	20	28	3	5/8	5/8	6 1/2	\$2.00	\$2.00
5/16	1/4	18	24	3	11/16	5/8	6 1/2	2.00	2.00
1/4	3/8	20	28	3	5/8	5/8	8 3/4	2.50	2.50
5/16	3/8	18	24	3	3/4	3/4	8 3/4	2.60	2.60
3/8	3/8	16	24	3	13/16	3/4	8 3/4	2.90	2.90
3/8	1/2	16	24	3	13/16	3/4	12	3.80	3.80
7/16	1/2	14	20	3	13/16	11/16	12	4.10	4.10
1/2	1/2	13	20	3	13/16	11/16	12	4.40	4.40
9/16	1/2	12	18	3	17/16	15/16	15	6.20	6.20
5/8	5/8	11	18	3	15/8	15/16	15	7.00	7.00
3/4	5/8	*10	16	3	11 1/16	15/8	15	8.60	8.60
3/4	7/8	10	16	3	11 1/16	15/8	18 1/16	†	†
7/8	7/8	9	14	3	11 1/16	13/4	18 1/16	†	†
1	7/8	8	14	3	23/16	13/4	18 1/16	†	†

No. 352 Carbon Steel
Machine Screw Sizes

Screw Gage No.	Basic O.D. In.	Size Machine In.	THREADS PER INCH		No. of Flutes	LENGTH OF THREAD NOT INCL. POINT INCHES		Lgth. Overall Before Bending Incl. Point, In.	Each
			N.C.	N.F.		N.C.	N.F.		
4	.112	1/8	40	48	36	3	5/16	1/4	39 1/16
5	.125	1/8	40	44	..	3	5/16	3/32	39 1/16
6	.138	1/8	32	40	..	3	3/8	5/16	39 1/16
6	.138	3/16	32	40	..	3	3/8	5/16	41 1/16
8	.164	3/16	32	36	..	3	3/8	11/32	41 1/16
10	.190	3/16	24	32	..	3	1/2	3/8	41 1/16
12	.216	3/16	24	28	..	3	1/2	7/16	41 1/16
6	.138	1/4	32	40	..	3	3/8	5/16	61 1/2
8	.164	1/4	32	36	..	3	3/8	11/32	61 1/2
10	.190	1/4	24	32	..	3	1/2	3/8	61 1/2
12	.216	1/4	24	28	..	3	1/2	7/16	61 1/2
14	.242	1/4	..	..	20	3	..	19/32	61 1/2
14	.242	1/4	..	..	24	3	..	1/2	61 1/2

Fractional Sizes

Also furnished with Manufacturers Standard Stovebolt form of thread.

Diam. Tap In.	Size Machine In.	THREADS PER INCH		No. of Flutes	LENGTH OF THREAD NOT INCL. POINT, INCHES		Lgth. Overall Before Bending Incl. Point, In.	Each
		N.C.	N.F.		N.C.	N.F.		
3/16	3/16	..	..	24	3	..	1/2	41 1/16
1/8	1/4	40	..	3	5/16	..	6 1/2	.65
3/16	1/4	24	32	24	3	1/2	6 1/2	.65
1/4	1/4	20	28	18	3	5/8	11/16	.65
5/16	1/4	18	24	..	3	11/16	5/8	.75
1/4	3/8	20	28	..	3	5/8	5/8	.70
5/16	3/8	18	24	..	3	3/4	5/8	.80
3/8	3/8	16	24	..	3	13/16	3/4	.90
3/8	1/2	16	24	..	3	13/16	3/4	.95
7/16	1/2	14	20	..	3	13/16	11/16	1.05
1/2	1/2	13	20	..	3	13/16	11/16	1.15
9/16	5/8	12	18	..	3	17/16	15/16	1.55
5/8	5/8	11	18	..	3	15/8	15/16	1.75
3/4	5/8	*10	16	..	3	11 1/16	15/8	15
3/4	7/8	10	16	..	3	11 1/16	15/8	18 1/16
7/8	7/8	9	14	..	3	11 1/16	13/4	18 1/16
1	7/8	8	14	..	3	23/16	13/4	18 1/16

*Recommended only for thin nuts. †Prices on request.

GTD Pipe Taps



High Speed Steel

Taper—No. 5320 Tru-Lede Commercial Ground Thread—Regular
No. 6320 Cut Thread—Regular or Interrupted
Straight—No. 5323 Tru-Lede Commercial Ground Thread
No. 6323 Cut Thread

Furnished with American Standard form of thread.

Unless otherwise specified orders for 1/8-inch pipe taps will be filled with taps having the large shank.

Cut thread taps furnished unless ground thread are specified.

Left-hand taps are special.

Sizes and dimensions not listed are special.

Carbon Steel

No. 320—Taper—Regular or Interrupted
No. 323—Straight

Furnished with American National or British Standard form of thread at regular prices.

Unless otherwise specified orders for 1/8-inch pipe taps will be filled with taps having the large shank.

American National Standard regular taper taps can be furnished with right or left-hand thread.

Left-hand pipe taps with British Standard or interrupted thread are special.

Sizes and dimensions not listed are special.

Nom- inal Size In.	TAPER		Straight		Carbon		THREADS TO INCH		Lgth. Over- all In.
	No. 6320 Reg. No. 5320 Each	No. 6320 Inter- rupted Each	No. 6323 Reg. No. 5323 Each	No. 320 Reg. No. 323 Each	No. 320 Inter- rupted Each	No. 320 Inter- rupted Each	Amer Nat.	Brit- ish Std.	
1/8	\$1.60	\$2.00	\$1.60	\$1.00	\$1.40	27	28	3/4	21 1/8
1/4	1.80	2.20	1.80	1.20	1.70	18	19	1 1/16	21 1/8
3/8	2.30	2.80	2.30	1.60	2.25	18	19	1 1/16	29 1/8
1/2	4.40	5.25	4.40	2.00	2.80	14	14	1 3/8	31 1/8
3/4	6.10	7.30	6.10	2.80	3.90	14	14	1 3/8	31 1/8
1	9.20	11.10	9.20	4.40	6.15	11 1/2	11	1 3/4	33 1/4
1 1/4	13.10	15.25	..	5.00	7.00	11 1/2	11	1 3/4	4
1 1/2	17.70	21.25	..	6.60	9.25	11 1/2	11	1 3/4	4 1/4
2	24.00	28.80	..	10.00	14.00	11 1/2	11	1 3/4	4 1/2
2 1/2	..	..	..	15.00	..	..	11	2 1/8	5 1/2
3	..	..	..	22.50	..	..	8	11	2 1/8
3 1/2	..	..	..	30.00	..	..	8	11	2 1/8
4	..	..	..	45.00	..	..	8	11	2 3/4

Walton Tap Extractors



For removing taps broken at or below surface of work without annealing, drilling, or injury to thread.

The 5/16-inch size is used on both Nos. 18 and 20 taps.

Specify whether wanted for 2, 3 or 4-fluted taps.

Size Tap It Will Remove	Com- plete Each	Extra Fingers Each	Size Tap It Will Remove	Com- plete Each	Extra Fingers Each	Size Tap It Will Remove	Com- plete Each	Extra Fingers Each
#6	\$1.50	\$.04	11 3/32" (#22)	\$1.60	\$.12	3/4"	\$2.45	\$.20
#8	1.50	.04	3/8" (#24)	1.60	.12	7/8"	2.75	.25
3/16" (#10)	1.50	.06	13/32" (#26)	1.70	.12	1"	3.10	.25
#12	1.55	.08	7/16" (#28)	1.70	.12	1 1/8"	3.50	.25
1/4" (#14)	1.55	.10	1 1/2"	1.85	.15	1 1/4"	4.00	.30
9/32" (#16)	1.55	.10	9/16"	2.00	.15	1 3/8"	4.50	.30
5/16" (#18)	1.60	.10	5/8"	2.20	.20	1 1/2"	5.00	.35

If you are interested in any special drill or shop tool not listed in our catalog, we will gladly furnish you with specifications and prices.

G T D Tap Wrenches



This T handle tap wrench is made from steel carefully selected for its toughness. The chuck jaws are hardened and tempered, which greatly lengthens the life of the tool. The design is simple throughout, and this tool is entirely free from delicate springs, pins, etc.

No.	CAPACITY (TAP SIZES)		Length Inches	Weight Ounces	Each
	Hand Inches	Machine Screw			
329	1/16-1/4	0-14	2 1/2	3	\$.75
333	1/4-1/2	14	3 3/8	8	1.25

Goodell-Pratt Tool or Tap Holders
With Adjustable Cross Handles



For holding drills, taps, reamers or other tools to be turned by hand. Cross handle is adjustable either to secure leverage or for working in close quarters. Friction ball in head holds handles in any one of 3 positions. Chuck shell is extra long and knurled. Steel jaws are hardened and tempered.

No.	828	829
Each	\$.85	1.10
Capacity, Taps	1/32	3/8
Length of Handle	3 3/8	4 3/4
Weight	3	5

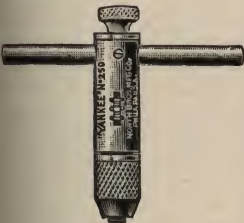
G T D Adjustable Tap and Reamer Wrenches



The jaws are made of tool steel, carefully hardened and tempered. They will not break or get out of line. Wrenches Nos. 0 to 7 are solid steel drop forgings. The larger sizes, Nos. 7 1/2 and 8, have malleable iron bodies and steel tubing handles.

No.	Each	CAP. (TAP SIZES), IN.		Machine Screw	Pipe	Except Ream- rite Line, In.	Lgth. In.	Wt. Lbs.
		Hand	Machine					
00	\$1.75	1/16-1/4	0-14	.....	1/8-1 1/4	1/8-1 1/4	5	1 1/8
0	2.00	1/16-1/4	0-14	.....	1/8-1 1/4	1/8-1 1/4	7	1 1/4
4	3.00	1/16-3/16	0-14	.....	1/8-1 1/4	1/8-1 1/4	9	1 1/2
5	3.50	5/32-9/16	7-14	1/8	1 1/4-1 1/2	1 1/4-1 1/2	11	1 3/4
6	4.00	5/32-3/4	7-14	1/8-1/4	1 1/4-1 1/2	1 1/4-1 1/2	15	1 5/8
7	5.00	1/4-1 1/8	.....	1/8-3/4	1 1/2-1 3/4	1 1/2-1 3/4	19	2 1/8
7 1/2	6.50	1/2-1 3/8	.....	1/8-1	1 3/4-1 5/8	1 3/4-1 5/8	31	4 1/2
8	8.00	3/4-1 5/8	.....	3/8-1 1/4	1 5/8-1 3/4	1 5/8-1 3/4	40	8

Yankee Ratchet Tap Wrenches



No. 250

The features of this wrench are its adaptability, convenience and efficiency for working in close quarters, corners and inaccessible places. With the shifter at top, it is left hand; at bottom, right hand; and in center, rigid as ordinary tap wrench. The cross bar is held central by a friction device and is of ample leverage for even larger taps than the chucks will hold.

No.	250	251	1251
Hold Taps	3/16	5/16	5/8
Outside Diameter Chuck	3/4	7/8	1
Length Over All	3 1/4	4 3/16	13
Each, Chrome-Plated	\$2.80	3.30	4.20

G T D Solid Square Bolt Dies



Sizes, dimensions and threads not listed are subject to special prices.

Left-hand dies are special.

Cutting Size Inches	Each	THREADS PER INCH		Size Square Inches	Thickness Inches
		N.C.	N.S.		
1/4	\$1.80	20	..	2 1/2	1 1/2
5/16	1.80	18	..	2 1/2	1 1/2
3/8	1.80	16	..	2 1/2	1 1/2
7/16	1.80	14	..	2 1/2	1 1/2
1/2	1.80	13	..	2 1/2	3/4
9/16	1.90	12	..	2 1/2	3/4
5/8	2.00	11	..	2 1/2	3/4
3/4	2.20	10	..	2 1/2	3/4
7/8	2.40	9	..	2 1/2	3/4
1	2.70	8	..	2 1/2	1
1 1/8	3.00	7	..	2 1/2	1
1 1/4	3.30	7	..	2 1/2	1
1 3/8	3.60	6	..	2 1/2	1
1 1/2	3.90	6	..	3	1
1 5/8	4.20	..	5 1/2	3	1
1 3/4	5.40	5	..	3	1 1/4
1 7/8	6.50	..	5	3 1/2	1 1/2
2	7.50	4 1/2	..	3 3/4	2

No. 377 G T D Solid Hexagon

Re-Threading Dies



These dies are used only for repair work, for dressing over bruised or rusty threads, and will go into any space that hexagon nuts will go. They can be used in bit-brace sockets, ratchet or monkey wrenches, and will be found convenient in many ways. They are accurate, durable and will give satisfactory service. American National Coarse (N. C.) threads furnished unless otherwise ordered.

Size Inches	Each	THREADS, PER INCH			Whit. Std.	SIZE OF DIE	
		N.C.	N.F.	N.S.		Across Flats	Thick- ness
1/4	\$.70	20	28	..	20	19/32	1/4
5/16	.80	18	24	..	18	11/16	5/16
3/8	.90	16	24	..	16	25/32	3/8
7/16	1.00	14	20	..	14	7/8	7/16
1/2	1.10	13	20	..	12	1 1/16	1/2
9/16	1.20	12	18	..	12	1 1/16	1 1/2
5/8	1.40	11	18	..	11	1 1/4	5/8
1 1/16	1.60	..	..	11, 16	11	1 1/4	3/4
3/4	1.80	10	16	..	10	1 1/2	3/4
7/8	2.10	9	14	..	9	1 5/8	7/8
1	2.40	8	14	..	8	1 13/16	1
1 1/8	2.80	7	12	..	7	2	1
1 1/4	3.20	7	12	..	7	2 1/16	1
1 3/8	3.60	6	12	..	6	2 3/8	1
1 1/2	4.00	6	12	..	6	2 1/2	1



GTD Acorn Dies

The Acorn Die is easy to resharpen, and can be run at high speed. Three different types of holders are furnished for it, and by selecting the proper type of holder, it can be used on all makes of machines, drill presses, lathes, hand or automatic screw machines, turret lathes, bolt cutters, etc.

True concentric adjustment with its many obvious advantages is obtained with the Acorn Die. Carbon steel dies furnished unless **high speed** steel dies are specified.

Sizes, dimensions, threads, and die blanks other than listed subject to special prices. Left-hand dies are special.

Special dies and holders for threading up to 3-inch fractional and 2-inch pipe sizes can be furnished.

When ordering, specify the cutting size and number of threads per inch, thread form, number of die blank, type—carbon or high speed, kind of material to be threaded, and whether or not die is to cut close to shoulder.

Die blank numbers correspond to the terminal numbers of holders. For example: No. 0 die blanks fit Nos. 710, 730 and 780; No. 1 die blanks, Nos. 711, 731 and 781 series of holders, etc.

Machine Screw Sizes

High Speed				Carbon				DIE BLANKS		
Screw Threads	Die Blank			Screw				No. 0	No. 1	No. 2
Gage Per Inch	No. 1			Gage Threads Per Inch	N.C.	N.F.	N.S.	Each	Each	Each
No. N.C. N.F.	Each			No. N.C. N.F.						
5 40 44	\$4.00			0 .. 80				*\$2.40	\$2.40	....
6 32 40	4.00			1 64 72 56				*2.40	2.40	....
8 32 36	4.00			2 56 64				*2.40	2.40	....
10 24 32	4.00			3 48 56				*2.40	2.40	....
12 24 28	4.00			4 40 48 32, 36				*2.40	2.40	....
.. .. .				5 40 44				*2.40	2.40	....
.. .. .				6 32 40 36					2.20	....
.. .. .				8 32 36 40					2.20	\$2.60
.. .. .				10 24 32 30					2.20	2.60
.. .. .				12 24 28 32					2.20	2.60
.. .. .				14 .. 20, 24					2.20	2.60

*No. 1 dies furnished unless No. 0 are specified.

Fractional Sizes

High Speed Steel

Cutting THREADS PER INCH				DIE BLANKS				
Size	N.C.	N.F.	N.S.	No. 1	No. 2	No. 3	No. 4	No. 5
Inches				Each	Each	Each	Each	Each
1/4	20	28	27	\$4.00	\$5.00	....	....	....
5/16	18	24	27	....	5.00	....	....	....
3/8	16	24	27	....	5.00	\$6.00	....	....
7/16	14	20	27	....	....	6.00	....	....
1/2	13	20	27	....	....	6.00	....	....
9/16	12	18	27	....	....	6.00	....	....
5/8	11	18	27	....	....	6.00	\$8.00	....
3/4	10	16	27	....	....	....	8.00	....
7/8	9	14	27	....	....	....	8.00	....
1	8	14	27	....	....	....	8.00	....
1 1/8	7	12	..	....	....	....	....	\$12.50
1 1/4	7	12	..	....	....	....	....	12.50
1 3/8	..	12	..	....	....	....	....	12.50
1 1/2	..	12	..	....	....	....	....	12.50

Carbon Steel

THREADS PER INCH				DIE BLANKS						
Size	N.C.	N.F.	N.S.	Whitworth	Std. Fine	No. 0	No. 1	No. 2	No. 3	No. 4
Inches						Each	Each	Each	Each	Each
1/16	..	..	64	60	..	\$2.40	\$2.40	....	....	....
3/32	..	..	48	48	..	2.40	2.40	....	....	....
1/8	..	..	40	40	..	2.40	2.40	....	....	....
5/32	..	..	32, 36	32	..	....	2.20	....	....	....
3/16	..	..	24, 32	24	..	....	2.20	....	....	....
7/32	..	..	24, 32	24	..	....	2.20	....	....	....
1/4	20	28	24, 27, 32	20, 26	26	....	2.20	\$2.60	....	....
5/16	18	24	20, 27, 32	18, 26	22	....	....	2.60	....	....
3/8	16	24	20, 27	16, 26	20	....	....	2.60	\$3.00	....
7/16	14	20	24, 27	14, 26	18	....	....	2.60	3.00	....
1/2	13	20	12, 24, 27	12, 26	16	....	....	....	3.00	....
9/16	12	18	..	12, 26	16	....	....	....	3.00	....
5/8	11	18	12, 27	11, 26	14	....	....	....	3.00	\$4.00
1 1/16	..	..	11, 16	11, 26	14	....	....	....	3.00	4.00
3/4	10	16	12, 27	10, 26	12	....	....	....	....	4.00
7/8	9	14	12, 27	9, 26	11	....	....	....	....	4.00
1	8	14	12, 27	8, 26	10	....	....	....	....	4.00
1 1/8	7	12	..	..	..	....	....	....	4.00	\$6.50
1 1/4	7	12	..	..	..	....	....	....	....	6.50
1 3/8	..	12	..	..	..	....	....	....	....	6.50
1 1/2	..	12	..	..	..	....	....	....	....	6.50

†No. 1 furnished unless specified. †British Std. Brass sizes.

GTD Regular Style Acorn Die Holders



Of steel, finished hardened, ground to size. Body has longitudinal float which allows die to follow its own lead independent of any lag in machine. Used on practically all automatic screw machines.

No. of Holder	Each	No. of Die	DIMENSIONS, INCHES			Lgh. Thread Will Cut
			Diam. Shank	Length Shank	Length Body	
710A	\$9.00	0	5/8	1 3/4	1 1/2	7/8
710B	9.00	0	5/8	2	1 3/2	7/8
710C	9.00	0	3/4	2 1/2	1 3/2	7/8
711A	9.00	1	5/8	1 3/8	1 3/4	1
711B	9.00	1	3/4	1 3/4	1 3/4	1
711C	9.00	1	3/4	2 3/8	1 3/4	1
*711D	9.00	1	5/8	1 7/8	1	1 3/16
712A	12.00	2	5/8	1 7/4	1 3/2	1 3/8
712B	12.00	2	3/4	1 3/4	1 3/2	1 3/8
712C	12.00	2	7/8	2 3/4	1 3/2	1 3/8
712D	12.00	2	1	2 3/4	1 3/2	1 3/8
712E	12.00	2	1	3 3/4	1 3/2	1 3/8
*712F	12.00	2	5/8	1 7/8	1 3/2	1 1/8
*712G	12.00	2	3/4	1 1/2	1 3/2	1 1/8
*712H	12.00	2	1	2	1 3/2	1 1/8
713A	15.00	3	3/4	2 1/4	2 1/2	2
713B	15.00	3	1	2 1/2	2 1/2	2
713C	15.00	3	1	3 7/8	2 1/2	2
713D	15.00	3	1 1/4	2 3/4	2 1/2	2
713E	15.00	3	1 1/4	3 7/8	2 1/2	2
*713F	15.00	3	3/4	1 1/2	2 1/2	1 1/2
*713G	15.00	3	1	2	2 1/2	1 1/2
714A	22.50	4	1	2 7/8	3 3/2	2 1/4
714B	22.50	4	1 1/4	2 7/8	3 3/2	2 1/4
714C	22.50	4	1 1/4	4 1/2	3 3/2	2 1/4
714D	22.50	4	1 1/2	2 7/8	3 3/2	2 1/4
714E	22.50	4	1 1/2	4 1/2	3 3/2	2 1/4
714F	22.50	4	1	3 7/8	3 3/2	2 1/4
*714G	22.50	4	1	2	3 1/2	2
715	37.50	5	2	3 1/4	4 9/16	2 1/2

*Short body type.

G T D Releasing Acorn Die Holders

For Brown & Sharpe Machines



For use on Brown & Sharpe plain wire feed and automatic screw machines. The same design is followed as in Brown & Sharpe releasing round die holders.

While suitable for all machines, this holder is especially recommended for hand operated machines. Improved clutch mechanism allows holder to be released without shock. All parts subject to wear are carefully hardened.

Each holder is listed for largest size die within its capacity. Can also be furnished with caps for smaller dies.

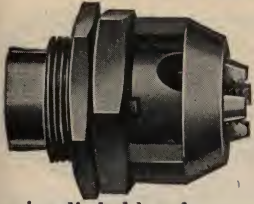
No. of Holder	Price Each	No. of Die	For B. & S. Machine No.	DIMENSIONS, INCHES			Lgh. Thread Will Cut
				Lgh. Shank	Diam. Shank	Lgh. Body	
730	\$12.50	0	00 & 00G Auto.....	1 1/8	5/8	1 3/4	5/8
731	12.50	1	00 & 00G Auto.....	1 1/8	5/8	1 3/4	7/8
731-C	12.50	1	..	2	3/4	1 3/4	7/8
732-A	14.00	2	0 Wire Feed.....	1 1/8	5/8	2 1/4	1 3/8
732-B	14.00	2	1 W.F., Plain.....	2	3/4	2 1/4	1 1/2
732-C	14.00	2	0 & 0G Auto.....	1 1/2	3/4	2 1/4	1 1/2
732-D	14.00	2	..	3	1	2 1/4	1 1/2
733	17.00	3	..	2	3/4	3 3/8	2 1/8
733-A	17.00	3	2 & 2F, W.F., 2 Plain	2 1/2	1	3 3/8	2 1/8
733-B	17.00	3	2 & 2G Automatic...	2	1	3 3/8	2 1/8
734	38.00	4	..	2	1	4 3/8	3 5/8
733-C	32.00	3	{ 4 Pl. 428 to 601... 4 W.F. p'r to 23... 5 Pl. 428 to 581... 6 Pl. 59 to 230.....	3 1/4	1 1/4	3 3/8	2 7/8
734-A	38.00	4	..	3 1/4	1 1/2	4 3/8	3 5/8*
734-B	38.00	4	4 & 5 Pl., 4 W.F.....	3	1 3/4	4 3/8	3 5/8†
734-E	38.00	4	..	2	1 1/4	4 3/8	3 5/8
735	46.00	5	6 Plain, 6 W.F.....	3 1/4	2	4 1/16	4 ‡

*Will cut 5/8" diam. and smaller threads, way through.

†Will cut 3/4" diam. and smaller threads, way through.

‡Will cut 1 1/16" diam. and smaller threads, way through.

G T D Acorn Die Adapters



An appliance by means of which Acorn Dies may be used in machines or holders already in operation. It is a simple tool made up of only three parts—a cap to hold and adjust the die; a lock-nut to secure the adjustment; and a threaded body, one end of which fits any round or

spring die holder of corresponding size. The body and shank are hollow to permit the cutting of any length of thread, provided the holder or machine will permit.

The Acorn Die Adapter is not designed to take the place of either the regular or the releasing holder, but furnishes an excellent means of using Acorn Dies with button, spring or floating die holders. Features of this holder are accurate and positive adjustment, quick removal and interchangeability. It is also used in hand die stocks when the Acorn Die is used for hand sizing operations.

No. of Adapter	Each	No. of Die	DIMENSIONS, INCHES		Length Thread Will Cut Inches
			Diam. Shank	Length Shank	
780	\$4.00	0	$\frac{5}{8}$	$\frac{1}{4}$	No Limit
781A	4.00	1	$\frac{5}{8}$	$\frac{1}{4}$	No Limit
781B	4.00	1	$\frac{13}{16}$	$\frac{1}{4}$	No Limit
781C	4.00	1	1	$\frac{3}{8}$	No Limit
781D	4.00	1	$1\frac{1}{2}$	$\frac{1}{2}$	No Limit
782A	5.00	2	$\frac{13}{16}$	$\frac{1}{4}$	No Limit
782B	5.00	2	1	$\frac{3}{8}$	No Limit
782C	5.00	2	$1\frac{5}{16}$	$\frac{7}{16}$	No Limit
782D	5.00	2	$1\frac{1}{2}$	$\frac{1}{2}$	No Limit
782E	5.00	2	$1\frac{9}{16}$	$\frac{9}{16}$	No Limit
783A	7.50	3	$1\frac{5}{16}$	$\frac{7}{16}$	No Limit
783B	7.50	3	$1\frac{1}{2}$	$\frac{1}{2}$	No Limit
783C	7.50	3	$1\frac{9}{16}$	$\frac{9}{16}$	No Limit
783D	7.50	3	2	$\frac{5}{8}$	No Limit
783E	7.50	3	$1\frac{3}{4}$	$\frac{9}{16}$	No Limit
784A	10.00	4	2	$\frac{5}{8}$	No Limit
784B	10.00	4	$2\frac{1}{4}$	$\frac{3}{4}$	No Limit
785	25.00	5	.3	1	No Limit

GTD Stocks for Adjustable Round Split Dies

Made from selected malleable iron castings accurately machined and highly polished.

Handle is knurled to insure a firm grip.



No.	Each	Diam. Dies In.	Lgth. In.	Wt. Lb.
*1850	\$.75	$\frac{5}{8}$	5	$\frac{1}{16}$
1851	1.00	$\frac{13}{16}$	$6\frac{1}{4}$	$\frac{1}{8}$
1852	1.25	1	9	$\frac{5}{16}$
1397	1.75	$1\frac{5}{16}$	$13\frac{3}{4}$	1
1853	2.00	$1\frac{1}{2}$	14	$1\frac{1}{4}$
1855	2.00	$1\frac{9}{16}$	16	$1\frac{1}{4}$
1857	2.50	2	23	$1\frac{7}{8}$
1398	3.50	$2\frac{1}{4}$	25	2
1858	3.50	$2\frac{1}{2}$	26	$2\frac{1}{2}$
1859	6.00	3	32	$2\frac{7}{8}$

*Furnished in 3-screw type for dies with open type adjustment.



GTD SMALL TOOLS

In our catalogue we show only a part of the GTD Tools that we distribute.

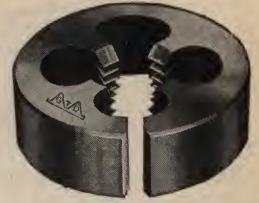
The complete GTD Catalog will be sent upon request.

GTD Adjustable Round Split Dies

Carbon Steel



No. 382, Screw Adjusting Type



No. 482 Open Adjusting Type

Furnished with American National form of thread. Sizes, dimensions and threads not listed are special. **High speed** steel dies are special. Left-hand dies are special. When ordering, specify type of die desired.

O.D. inches	$\frac{5}{8}$	$\frac{13}{16}$	1	$1\frac{5}{16}$	$1\frac{1}{2}$	2	$2\frac{1}{4}$	$2\frac{1}{2}$	3
Thickness. inches	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{3}{4}$	1

Machine Screw Sizes

Screw Gage No.	5/16-Inch O.D. Each	13/16-Inch O.D. Each	1-Inch O.D. Each	No. of Threads Per Inch		
				N.C.	N.F.	N.S.
0	\$.80	\$.90	...	...	80	...
1	.80	.90	...	64	72	56
2	.70	.80	...	56	64	...
3	.60	.70	...	48	56	...
4	.50	.60	...	40	48	32, 36
5	.50	.60	...	40	44	...
6	.50	.60	\$.75	32	40	36
8	.50	.60	.75	32	36	40
10	.50	.60	.75	24	32	30
12	.50	.60	.75	24	28	32
14	.50	.60	.75	...	...	20, 24

*Not furnished in No. 382 type die.

Fractional Sizes

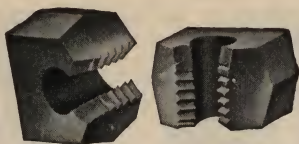
Cutting Size In.	13/16-Inch O.D. Each	1-Inch O.D. Each	No. of Threads Per Inch			Whitworth Std.	BRITISH STD.	
			N.C.	N.F.	N.S.		Brass	Fine
$1\frac{1}{16}$	\$.90	...	...	...	64	60	...	...
$3\frac{3}{32}$	.70	...	...	...	48	48	...	...
$1\frac{1}{8}$	.60	\$.75	...	...	40	40	...	...
$5\frac{3}{32}$	.60	.75	...	...	32, 36	32	...	...
$3\frac{1}{16}$	.60	.75	...	...	24, 32	24	...	...
$7\frac{3}{32}$	.60	.75	...	...	24, 32	24	...	...
$1\frac{1}{4}$	.60	.75	20	28	24, 27, 32	20	26	26
$5\frac{1}{16}$	.60	.75	18	24	20, 27, 32	18	26	22
$3\frac{3}{8}$	...	.75	16	24	20, 27	16	26	20
$7\frac{1}{16}$	...	.75	14	20	24, 27	14	26	18

Cutting Size In.	13/16-Inch O.D. Each	1 1/2-Inch O.D. Each	2-Inch O.D. Each	No. of Threads Per Inch			Whitworth Std.	BRITISH STD.	
				N.C.	N.F.	N.S.		Brass	Fine
$1\frac{1}{4}$	\$1.25	\$1.25	\$2.00	20	28	24, 27, 32	20	26	26
$5\frac{1}{16}$	1.25	1.25	2.00	18	24	20, 27, 32	18	26	22
$3\frac{1}{8}$	1.25	1.25	2.00	16	24	20, 27	16	26	20
$7\frac{1}{16}$	1.25	1.25	2.00	14	20	24, 27	14	26	18
$1\frac{1}{2}$	1.25	1.25	2.00	13	20	12, 24, 27	12	26	16
$9\frac{1}{16}$	...	1.25	2.00	12	18	27	12	26	16
$5\frac{3}{8}$	...	1.25	2.00	11	18	12, 27	11	26	14
$11\frac{1}{16}$	...	...	2.00	...	...	11, 16	11	...	14
$3\frac{3}{4}$	...	...	2.00	10	16	12, 27	10	26	12
$7\frac{3}{8}$	...	...	2.00	9	14	12, 27	9	26	11

Cutting Size In.	2 1/4-Inch O.D. Each	2 1/2-Inch O.D. Each	3-Inch O.D. Each	No. of Threads Per Inch			Whitworth Std.	BRITISH STD.	
				N.C.	N.F.	N.S.		Brass	Fine
$1\frac{1}{2}$	\$3.00	\$3.00	...	13	20	12, 24, 27	12	26	16
$9\frac{1}{16}$	3.00	3.00	...	12	18	27	12	26	16
$5\frac{3}{8}$	3.00	3.00	...	11	18	12, 27	11	26	14
$11\frac{1}{16}$	3.00	3.00	...	...	...	11, 16	11	...	14
$3\frac{3}{4}$	3.00	3.00	...	10	16	12, 27	10	26	12
$7\frac{3}{8}$	3.00	3.00	\$5.00	9	14	12, 27	9	26	11
1	3.00	3.00	5.00	8	14	12, 27	8	26	10
$11\frac{1}{8}$	...	...	5.00	7	12	...	7	...	9
$11\frac{1}{4}$	...	...	5.00	7	12	...	7	...	9
$13\frac{3}{8}$	...	...	5.00	6	12	...	6	...	8
$11\frac{1}{2}$	...	...	5.00	6	12	...	6	...	8

Little Giant Adjustable Dies

Fractional Sizes



These dies are made of high grade tool steel, carefully hardened. Refinements in design give these dies unusually long life, and freedom of cutting action.

National Coarse threads furnished unless otherwise specified. Sizes, dimensions and threads not listed are subject to special prices. Left-hand dies are furnished in N.C., N.F., Whitworth and B.S.F. pitches, sizes $\frac{1}{4}$ " to $1\frac{1}{2}$ ", at regular list prices.

In ordering dies, specify outside diameter of collet, and the cutting size and number of threads per inch.

Cutting Size In.	DIAM. COLLETS INCHES		NO. OF THREADS TO THE INCH				
	1 1/4 Each	*2, 2 3/4 4, 4 1/2 Each	STANDARD PITCHES		Whit. Std.	BSF (Whit. Form)	Also Furnished N.S.
1/16	\$.75	....	N.C.	N.F.	60	..	64
3/32	.75	....	..	..	48	..	48, 50
1/8	.75	....	..	..	40	..	40
5/32	.75	....	..	..	32	..	32, 36
3/16	.75	\$1.00	..	..	24	..	24, 32
7/32	.75	1.00	..	..	24	..	24, 32
1/4	.75	1.00	20	28	20	26	24, 27, 32
5/16	....	1.00	18	24	18	22	20, 27, 32
3/8	....	1.25	16	24	16	20	20, 27
7/16	....	1.25	14	20	14	18	24, 27
1/2	....	1.50	13	20	12	16	12, 24, 27
9/16	....	1.50	12	18	12	16	27
5/8	....	1.75	11	18	11	14	12, 27
11/16	....	1.75	..	..	11	14	11, 16
3/4	....	2.00	10	16	10	12	12, 27
7/8	....	2.75	9	14	9	11	12, 27
1	....	2.75	8	14	8	10	12, 27
1 1/8	....	4.00	7	12	7	9	.....
1 1/4	....	4.00	7	12	7	9	.....
1 3/8	....	5.00	6	12	6	8	.....
1 1/2	....	5.00	6	12	6	8	.....

*2-inch diameter collets take dies $\frac{3}{16}$ - $1\frac{1}{2}$ -inch.

2 3/4-inch diameter collets take dies $\frac{3}{16}$ -1-inch.

4-inch diameter collets take dies $\frac{5}{8}$ - $1\frac{1}{4}$ -inch.

4 1/2-inch diameter collets take dies $\frac{7}{8}$ - $1\frac{1}{2}$ -inch.

Little Giant pump rod dies $\frac{3}{8}$ -14, $\frac{1}{2}$ -12, and $\frac{1}{2}$ -12 V form $\frac{1}{32}$ inch oversize, for use in regular collets or with bit brace shank guide can be furnished at regular prices of Little Giant Dies of corresponding size.

Little Giant Adjustable Dies

Machine Screw Sizes

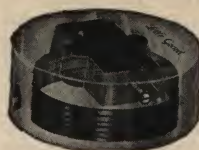


Sizes, dimensions and threads not listed are subject to special prices.

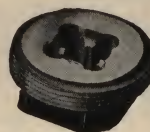
Left-hand dies are special.

Screw Gauge No.	THREADS TO INCH			Dies 1 1/4-Inch Diam. Collet
	N.C.	N.F.	N.S.	
2	56	64	.....	\$.75
3	48	56	.....	.75
4	40	48	32, 36	.75
5	40	44	.....	.75
6	32	40	36	.75
8	32	36	40	.75
10	24	32	30	.75
12	24	28	32	.75
14	..	..	20, 24	.75

Little Giant Collets



Cap (Phantom View)



Guide



Collet, Complete

The table below shows in detail the range of sizes in each collet.

In ordering extra collets or guides, it is only necessary to give the outside diameter of the collet and the cutting size of the die for which it is required.

Standard Sizes

Collet Number	Outside Diam., In.	Dimensions of Slot, Inches	Take Dies of Following Sizes
A1	1 1/4	2 3/4 x 2 5/32	All Sizes A1 Die
1/4 No. 1	2	1 1/2 x 1 1/16	3/16, 1/4, 5/16
3/8 No. 1	2	1 3/32 x 1 1/16	3/8, 1/2, 5/8
1/4 No. 5	2 3/4	1 1/2 x 1 1/16	3/16, 1/4, 5/16
3/8 No. 5	2 3/4	1 3/32 x 1 1/16	3/8, 1/2, 5/8
1/2 No. 5	2 3/4	1 3/32 x 1 1/16	3/8, 1/2, 5/8
7/8 No. 5	2 3/4	1 3/32 x 1 1/16	3/8, 1/2, 5/8
1/2 No. 20	4	2 1/2 x 1 1/8	1/2, 3/4, 5/8, 1 1/16, 3/4
7/8 No. 20	4	2 1/2 x 1 1/8	1/2, 3/4, 5/8, 1 1/16, 3/4
1 1/8 No. 20	4	2 1/2 x 1 1/8	1/2, 3/4, 5/8, 1 1/16, 3/4
7/8 No. 25	4 1/2	2 1/2 x 1 1/8	1/2, 3/4, 5/8, 1 1/16, 3/4
1 1/8 No. 25	4 1/2	2 1/2 x 1 1/8	1/2, 3/4, 5/8, 1 1/16, 3/4
1 3/8 No. 25	4 1/2	2 1/2 x 1 1/8	1/2, 3/4, 5/8, 1 1/16, 3/4

*Round ends.

Prices

No. of Collet	Collet Diam., In.	Cutting Size of Dies, In.	Cap Each	Guide Each	Complete Each
A1	1 1/4	{ 2-14 } { 1/16-1/4 }	\$.35	\$.20	\$.55
1	2	3/16-1/2	.50	*.30	.80
5	2 3/4	3/16-1	.80	.50	1.30
20	4	5/8-1 1/4	1.50	.75	2.25
25	4 1/2	1 3/16-1 1/2	2.00	1.00	3.00

*Bit Brace Shank Guide for 2-inch diameter cap, \$.50; for 2 3/4-inch diameter cap, \$.75.

Little Giant Stocks
For Screw Plates

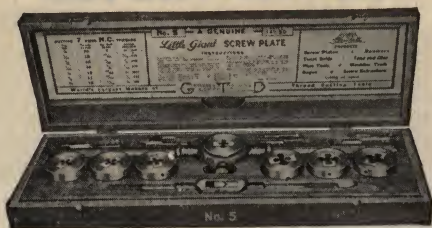
The body of each Little Giant stock has a mottled and polished finish; the handles are polished with a knurling on the ends so that greasy or oily hands will be able to take a sure grip.

Used in all Little Giant Screw Plates except full mounted. In each assortment one stock accommodates all the collets of the same outside diameter. Screw plates with 2 sizes of collets require 2 corresponding stocks.

Stocks can be furnished complete with die and collet, making a complete equipment for cutting any one size of thread.

Stock No.	Each	Collet Diameter, In.	Length of Stock, In.
A1	\$1.25	1 1/4	7 1/2
1	2.50	2	14 1/2
5	3.50	2 3/4	23
7	3.50	2 3/4	26
9	3.50	2 3/4	29
20	6.00	4	41
25	8.00	4 1/2	52

Little Giant Screw Plates



National Coarse threads furnished unless otherwise ordered. National Fine or Whitworth Standard threads furnished at regular prices if specified.

No. 0

Cuts 6 sizes N. C.: $\frac{3}{16}$ "²⁴, $\frac{1}{4}$ "²⁰, $\frac{5}{16}$ "¹⁸, $\frac{3}{8}$ "¹⁶, $\frac{7}{16}$ "¹⁴, $\frac{1}{2}$ "¹³; 2-inch diameter collet. Stock, $14\frac{1}{2}$ inches long. Tap wrench, No. 5. Contains bit brace shank guide. Weight, $9\frac{1}{2}$ pounds.
No. 0.....per set **\$20.00**

No. 1

Cuts 5 sizes N. C.: $\frac{1}{4}$ "²⁰, $\frac{5}{16}$ "¹⁸, $\frac{3}{8}$ "¹⁶, $\frac{7}{16}$ "¹⁴, $\frac{1}{2}$ "¹³; 2-inch diameter collet. Stock, $14\frac{1}{2}$ inches long. Tap wrench No. 5. Contains bit brace shank guide. Weight, 9 pounds.
No. 1.....per set **\$18.50**

No. 2

Cuts 5 sizes N. C.: $\frac{1}{4}$ "²⁰, $\frac{3}{8}$ "¹⁶, $\frac{1}{2}$ "¹³, $\frac{5}{8}$ "¹¹, $\frac{3}{4}$ "¹⁰; $2\frac{3}{4}$ -inch diam. collet. Stock, 23 in. long. Tap wrench No. 6. Wt., 17 lb.
No. 2.....per set **\$22.75**

No. 4

Cuts 5 sizes N. C.: $\frac{1}{2}$ "¹³, $\frac{5}{8}$ "¹¹, $\frac{3}{4}$ "¹⁰, $\frac{7}{8}$ "⁹, 1"; $2\frac{3}{4}$ -in. diam. collet. Stock, 26 in. long. Tap wrench No. 7. Wt., 20 $\frac{1}{2}$ lb.
No. 4.....per set **\$29.25**

No. 5

Cuts 7 sizes N. C.: $\frac{1}{4}$ "²⁰, $\frac{5}{16}$ "¹⁸, $\frac{3}{8}$ "¹⁶, $\frac{7}{16}$ "¹⁴, $\frac{1}{2}$ "¹³, $\frac{5}{8}$ "¹¹, $\frac{3}{4}$ "¹⁰; $2\frac{3}{4}$ -inch diameter collet. Stock, 23 inches long. Tap wrench No. 6. Weight, 20 pounds.
No. 5.....per set **\$27.50**

No. 5 $\frac{1}{2}$

Cuts 8 sizes N. C.: $\frac{1}{4}$ "²⁰, $\frac{5}{16}$ "¹⁸, $\frac{3}{8}$ "¹⁶, $\frac{7}{16}$ "¹⁴, $\frac{1}{2}$ "¹³, $\frac{9}{16}$ "¹², $\frac{5}{8}$ "¹¹, $\frac{3}{4}$ "¹⁰; $2\frac{3}{4}$ -inch diameter collet. Stock, 23 inches long. Tap wrench No. 6. Weight, 22 pounds.
No. 5 $\frac{1}{2}$per set **\$30.75**

No. 7

Cuts 9 sizes N. C.: $\frac{1}{4}$ "²⁰, $\frac{5}{16}$ "¹⁸, $\frac{3}{8}$ "¹⁶, $\frac{7}{16}$ "¹⁴, $\frac{1}{2}$ "¹³, $\frac{5}{8}$ "¹¹, $\frac{3}{4}$ "¹⁰, $\frac{7}{8}$ "⁹, 1"; $2\frac{3}{4}$ -inch diameter collet. Stock, 26 inches long. Tap wrenches Nos. 5 and 7. Weight, 27 pounds.
No. 7.....per set **\$42.00**

No. 7 $\frac{1}{2}$

Cuts 10 sizes N. C.: $\frac{1}{4}$ "²⁰, $\frac{5}{16}$ "¹⁸, $\frac{3}{8}$ "¹⁶, $\frac{7}{16}$ "¹⁴, $\frac{1}{2}$ "¹³, $\frac{9}{16}$ "¹², $\frac{5}{8}$ "¹¹, $\frac{3}{4}$ "¹⁰, $\frac{7}{8}$ "⁹, 1"; $2\frac{3}{4}$ -inch diameter collet. Stock, 26 inches long. Tap wrenches Nos. 5 and 7. Weight, 29 pounds.
No. 7 $\frac{1}{2}$per set **\$44.25**

No. 8

Cuts 7 sizes N. C.: $\frac{1}{4}$ "²⁰, $\frac{5}{16}$ "¹⁸, $\frac{3}{8}$ "¹⁶, $\frac{7}{16}$ "¹⁴, $\frac{1}{2}$ "¹³, $\frac{5}{8}$ "¹¹, $\frac{3}{4}$ "¹⁰; 2 and $2\frac{3}{4}$ -inch diameter collet, 2-inch for sizes $\frac{1}{16}$ inch and smaller and $2\frac{3}{4}$ -inch for sizes $\frac{1}{2}$ inch and larger; bit brace shanks fitting 2-inch collet. Two stocks, $14\frac{1}{2}$ and 26 inches long. Tap wrench No. 6. Weight, $19\frac{1}{2}$ pounds.
No. 8.....per set **\$30.00**

No. 9

Cuts 9 sizes N. C.: $\frac{1}{4}$ "²⁰, $\frac{5}{16}$ "¹⁸, $\frac{3}{8}$ "¹⁶, $\frac{7}{16}$ "¹⁴, $\frac{1}{2}$ "¹³, $\frac{5}{8}$ "¹¹, $\frac{3}{4}$ "¹⁰, $\frac{7}{8}$ "⁹, 1"; 2 and $2\frac{3}{4}$ -inch diameter collet, 2-inch for sizes $\frac{1}{16}$ inch and smaller and $2\frac{3}{4}$ -inch for sizes $\frac{1}{2}$ inch and larger; bit brace shanks fitting 2-inch collet. Two stocks, $14\frac{1}{2}$ and 29 inches long. Tap wrenches Nos. 5 and 7. Weight, 26 pounds.
No. 9.....per set **\$43.50**

No. 20

Cuts 6 sizes N. C.: $\frac{5}{8}$ "¹¹, $\frac{3}{4}$ "¹⁰, $\frac{7}{8}$ "⁹, 1", $1\frac{1}{8}$ "⁷, $1\frac{1}{4}$ "⁷; 4-inch diameter collet. Stock, 41 inches long. Tap wrench No. 7 $\frac{1}{2}$. Weight, $49\frac{1}{2}$ pounds.
No. 20.....per set **\$53.50**

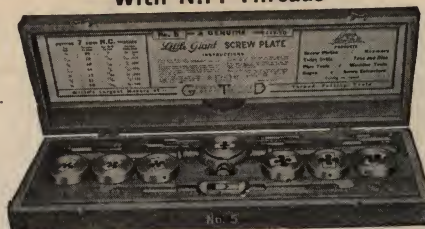
No. 25

Cuts 6 sizes N. C.: $\frac{7}{8}$ "⁹, 1", $1\frac{1}{8}$ "⁷, $1\frac{1}{4}$ "⁷, $1\frac{3}{8}$ "⁶, $1\frac{1}{2}$ "⁶; $4\frac{1}{2}$ -inch diam. collet. Stock, 52 in. long. Tap wrench No. 8. Wt., 71 lb.
No. 25.....per set **\$70.00**

No. 30

Cuts 4 sizes N. C.: $1\frac{1}{8}$ "⁷, $1\frac{1}{4}$ "⁷, $1\frac{3}{8}$ "⁶, $1\frac{1}{2}$ "⁶; $4\frac{1}{2}$ -in. diam. collet. Stock, 52 in. long. Tap wrench No. 8. Wt., 58 lb.
No. 30.....per set **\$59.00**

Little Giant Single Stock Screw Plates With N.F. Threads



Contains one tap and one die and collet for each cutting size. No. 31 Set has bit brace shank.

No. 31

Cuts 5 sizes N. F. Standard: $\frac{1}{4}$ "²⁸, $\frac{5}{16}$ "²⁴, $\frac{3}{8}$ "²⁴, $\frac{7}{16}$ "²⁰, $\frac{1}{2}$ "²⁰; bit brace shank and 2-inch diameter collet. Stock $14\frac{1}{2}$ inches long. Tap wrench No. 5. Weight, 8 pounds.
No. 31.....per set **\$18.50**

No. 35

Cuts 7 sizes N. F. Standard: $\frac{1}{4}$ "²⁸, $\frac{5}{16}$ "²⁴, $\frac{3}{8}$ "²⁴, $\frac{7}{16}$ "²⁰, $\frac{1}{2}$ "²⁰, $\frac{5}{8}$ "¹⁸, $\frac{3}{4}$ "¹⁶; $2\frac{3}{4}$ -inch diameter collet. Stock, 23 inches long. Tap wrench No. 6. Weight, 20 pounds.
No. 35.....per set **\$27.50**

No. 35 $\frac{1}{2}$

Cuts 8 sizes N. F. Standard: $\frac{1}{4}$ "²⁸, $\frac{5}{16}$ "²⁴, $\frac{3}{8}$ "²⁴, $\frac{7}{16}$ "²⁰, $\frac{1}{2}$ "²⁰, $\frac{9}{16}$ "¹⁸, $\frac{5}{8}$ "¹⁸, $\frac{3}{4}$ "¹⁶; $2\frac{3}{4}$ -inch diameter collet. Stock, 23 inches long. Tap wrench No. 6. Weight, 22 pounds.
No. 35 $\frac{1}{2}$per set **\$30.75**

No. 37

Cuts 9 sizes N. F. Standard: $\frac{1}{4}$ "²⁸, $\frac{5}{16}$ "²⁴, $\frac{3}{8}$ "²⁴, $\frac{7}{16}$ "²⁰, $\frac{1}{2}$ "²⁰, $\frac{5}{8}$ "¹⁸, $\frac{3}{4}$ "¹⁶, $1\frac{1}{4}$ "¹⁴; $2\frac{3}{4}$ -inch diameter collet. Stock 26 inches long. Two tap wrenches, Nos. 5 and 7. Weight, 27 pounds.
No. 37.....per set **\$42.00**

No. 37 $\frac{1}{2}$

Cuts 10 size N. F. Standard: $\frac{1}{4}$ "²⁸, $\frac{5}{16}$ "²⁴, $\frac{3}{8}$ "²⁴, $\frac{7}{16}$ "²⁰, $\frac{1}{2}$ "²⁰, $\frac{9}{16}$ "¹⁸, $\frac{5}{8}$ "¹⁸, $\frac{3}{4}$ "¹⁶, $1\frac{1}{4}$ "¹⁴; $2\frac{3}{4}$ -inch diameter collet. Stock, 26 inches long. Two tap wrenches, Nos. 5 and 7. Weight, 30 pounds.
No. 37 $\frac{1}{2}$per set **\$44.25**

Little Giant Combination Screw Plates



These screw plates contain N.C. and N.F. taps. Little Giant dies for each size; 2-inch collets for sizes $\frac{1}{2}$ -inch and smaller; $2\frac{3}{4}$ -inch collets for sizes $\frac{1}{16}$ inch and larger; and bit brace shank fitting 2-inch caps. Whitworth threads substituted for N.C. at regular prices.

No. 310

Cuts 5 sizes N.C.: $\frac{1}{4}$ "²⁰, $\frac{5}{16}$ "¹⁸, $\frac{3}{8}$ "¹⁶, $\frac{7}{16}$ "¹⁴, $\frac{1}{2}$ "¹³, and N.F.: $\frac{1}{4}$ "²⁸, $\frac{5}{16}$ "²⁴, $\frac{3}{8}$ "²⁴, $\frac{7}{16}$ "²⁰, $\frac{1}{2}$ "²⁰; bit brace shank and 2-inch diameter collet. Stock, $14\frac{1}{2}$ inches long. Tap wrench No. 5. Weight, 14 pounds.
No. 310.....per set **\$29.25**

No. 311

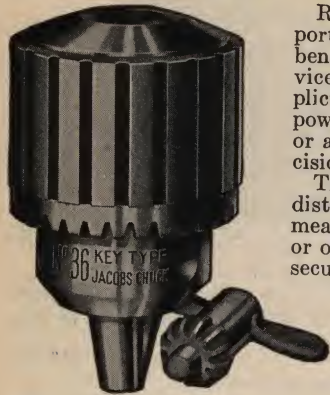
Cuts 8 sizes N.C.: $\frac{1}{4}$ "²⁰, $\frac{5}{16}$ "¹⁸, $\frac{3}{8}$ "¹⁶, $\frac{7}{16}$ "¹⁴, $\frac{1}{2}$ "¹³, $\frac{9}{16}$ "¹², $\frac{5}{8}$ "¹¹, $\frac{3}{4}$ "¹⁰, and N.F.: $\frac{1}{4}$ "²⁸, $\frac{5}{16}$ "²⁴, $\frac{3}{8}$ "²⁴, $\frac{7}{16}$ "²⁰, $\frac{1}{2}$ "²⁰, $\frac{9}{16}$ "¹⁸, $\frac{5}{8}$ "¹⁸; bit brace shank and 2 and $2\frac{3}{4}$ -inch diameter collets. Two stocks, $14\frac{1}{2}$ and 23 inches long. Tap wrench No. 6. Weight, 31 pounds.
No. 311.....per set **\$56.00**

No. 312

Cuts 10 sizes N.C.: $\frac{1}{4}$ "²⁰, $\frac{5}{16}$ "¹⁸, $\frac{3}{8}$ "¹⁶, $\frac{7}{16}$ "¹⁴, $\frac{1}{2}$ "¹³, $\frac{9}{16}$ "¹², $\frac{5}{8}$ "¹¹, $\frac{3}{4}$ "¹⁰, $\frac{7}{8}$ "⁹, 1", and N.F.: $\frac{1}{4}$ "²⁸, $\frac{5}{16}$ "²⁴, $\frac{3}{8}$ "²⁴, $\frac{7}{16}$ "²⁰, $\frac{1}{2}$ "²⁰, $\frac{9}{16}$ "¹⁸, $\frac{5}{8}$ "¹⁸, $\frac{3}{4}$ "¹⁶, $1\frac{1}{4}$ "¹⁴; bit brace shank and 2 and $2\frac{3}{4}$ -inch diameter collets. Two stocks, $14\frac{1}{2}$ and 29 inches long. Two tap wrenches Nos. 5 and 7. Weight, 45 pounds.
No. 312.....per set **\$79.00**

Jacobs Improved Drill Chucks

Key Type—Plain Bearing



Recommended for use on portable drills, drill presses, bench grinders, and tapping devices. A combination of simplicity, ruggedness, and gripping power for sensitive high speed or any other form of light precision drilling.

The toothed sleeve and key distinguishes this chuck. By means of this key, a drill tap or other tool can be easily and securely tightened.

Chucks may be taken apart by forcing sleeve off over jaw end of chuck, when nut may be taken out, leaving jaws free to be removed.

Easy-grip sleeve, ground inside and out. Nickel molybdenum alloy steel jaws. The hardened and ground body has a diamond bored taper hole, insuring great accuracy and a perfect fit on the machine spindle.

Light Duty Models—For Tapered Arbors and Spindles

Model No.	Capacity Inches	Taper Hole No.	Each	Keys Each	Jaws & Nuts per Set	Sleeves Each
0	0-1/8	0	\$6.00	\$.30	\$2.25	\$.60
1A	0-1/4	1	4.50	.30	1.75	.50
2A	0-3/8	2	5.50	.40	2.25	.60
2A-1A	0-3/8	1	5.50	.40	2.25	.60
33	5/64-1/2	33	6.50	.40	2.50	.60
6A-2A	0-1/2	2	7.50	.50	2.75	.90
6A-33	0-1/2	33	7.50	.50	2.75	.90
6A-E	0-1/2	E	7.50	.50	2.75	.90

Light Duty Models—For Threaded Spindles

Model No.	Capacity Inches	Thread	Each	Keys Each	Jaws & Nuts per Set	Sleeves Each
1B	0-1/4	3/8x24	\$4.50	\$.30	\$1.75	\$.50
2B	0-3/8	3/8x24	5.50	.40	2.25	.60
33B	5/64-1/2	1/2x20	6.50	.40	2.50	.60
		5/8x16				
		1/2x13				
6B	0-1/2	1/2x20	7.50	.50	2.75	.90
		1/2x24				

Medium Duty Models—For Tapered Arbors and Spindles

Model No.	Capacity Inches	Taper Hole No.	Each	Keys Each	Jaws & Nuts per Set	Sleeves Each
7	0-1/4	2	\$4.50	\$.30	\$1.75	\$.50
7-1A	0-1/4	1	4.50	.30	1.75	.50
30	0-5/16	2	5.50	.40	2.25	.60
30-1A	0-5/16	1	5.50	.40	2.25	.60
32	0-3/8	2	5.50	.40	2.25	.60
34	0-1/2	6	7.50	.50	2.75	.90
3	0-17/32	3	9.00	.50	*3.25	.90
3A	1/8-5/8	3	9.00	.50	3.25	.90
3A-6A	1/8-5/8	6	9.00	.50	3.25	.90
3A-E	1/8-5/8	E	9.00	.50	3.25	.90
36	3/16-3/4	3	12.00	.75	4.25	1.20
36-E	3/16-3/4	E	12.00	.75	4.25	1.20

Medium Duty Models—For Threaded Spindles

Model No.	Capacity Inches	Thread	Each	Keys Each	Jaws & Nuts per Set	Sleeves Each
7B	0-1/4	3/8x24	\$4.50	\$.30	\$1.75	\$.50
		1/2x20				
30B	0-5/16	3/8x24	5.50	.40	2.25	.60
		1/2x20				
32B	0-3/8	1/2x20	5.50	.40	2.25	.60
		5/8x16				
34B	0-1/2	5/8x16	7.50	.50	2.75	.90
		5/8x16				
3B	1/8-5/8	5/8x16	9.00	.50	*3.25	.90
		5/8x16				
36B	3/16x16	3/4x16	12.00	.75	4.25	1.20
		3/4x16				

*No. 3 jaws, 0-17/32-inch capacity; Nos. 3A and 3B, 1/8-5/8-inch capacity.

Parts for B threaded chucks are interchangeable with the tapered chucks.

Jacobs Super Drill Chucks



The Jacobs Ball Bearing Super Chuck is recommended for use in the machine shop and tool room—on drilling machines, lathes, screw machines and on every drilling operation requiring gripping power, accuracy and the highest degree of wearing quality. The ball bearings

eliminate friction, making this chuck easy to operate. It may be tightened by hand for ordinary drilling and tool work and only a slight pressure on the key is necessary for the heaviest drilling. This chuck is interchangeable on all present Jacobs equipped spindles.

Model No.	8 1/2	9	11	14	16	18	20
Each	\$6.00	7.00	8.00	10.00	12.50	15.00	20.00
Capacity in.	0-1/4	0-3/8	0-3/8	0-1/2	1/2-5/8	1/2-3/4	3/4-1
Taper No.	2	2	2	3	3	4	5

Repairs for Jacobs Super Drill Chucks

The Jacobs Super Drill Chuck can be readily taken apart and assembled.

To take the chuck apart, press the sleeve off over the front (or jaw end) of the body, remove balls from race through slot in body, leaving nut free to be removed when jaws can be taken out.

To assemble the chuck, insert the 3 jaws in body according to corresponding numbers on same, advance jaws partly, apply a good grade of grease to the thread on the nut and place it in position to engage the jaws, then feed balls into ball race through slot in body, apply good grease to balls, press on sleeve with an arbor press.

Model No.	8 1/2	9	11	14	16	18	20
Keys	each	\$.40	\$.40	\$.40	\$.50	\$.75	\$1.25
Jaws and Nuts	per set	2.25	2.75	3.00	3.25	4.25	5.25
Sleeves	each	.60	.75	.75	.90	1.20	1.50
Balls	per set	.30	.45	.45	.60	.75	.90

Jacobs Portomatic Chucks

Keyless—Medium Duty

Designed for portable drill use and machine drilling where the keyless or self-tightening feature is required.

Ball bearing, rapid in action, powerful, yet easily released by a slight twist of the knurled sleeve. Has a tremendous grip which automatically tightens with increased load.

Furnished in all standard tapers and threads and interchangeable on all present Jacobs equipped spindles.

Tapered Hole Model

No.	Each	Capacity Inches	Taper No.
250	\$5.00	0-1/4	2
250-1A	5.00	0-1/4	1
312	6.00	0-5/16	2
375	6.00	0-3/8	2
500	10.00	1/2-1/2	6

Threaded Hole Model

No.	Each	Capacity Inches	Thread
250B	\$5.00	0-1/4	3/8x24
			1/2x20
312B	6.00	0-5/16	3/8x24
			1/2x20
375B	6.00	0-3/8	1/2x20
			5/8x16
500B	10.00	1/2-1/2	5/8x16



Parts

Chuck No.	250	312	375	500
Screws	each	\$1.00	\$1.25	\$1.25
Jaws	per set	1.25	1.50	1.50
Carriers	each	.75	1.00	1.00
Collars	each	.50	.50	.50
Balls	per set	.30	.45	.45

Jacobs Headstock Chucks



Threads directly to spindles of small lathes. Hollow construction lends itself to chucking long pieces extending into spindle of lathe. When combined with tool post grinder, chuck is ideal for valve refacing work.

*Optional, 1/8-5/8-in. cap.

No.	54B	55B	56B	58B	59B
Each	\$10.00	12.00	12.00	15.00	18.00
Capacity	0-1 1/2	*0-1 1/2	*0-1 1/2	1/8-5/8	3/16-3/4
Length Jaws Closed	3 1/16	3 5/8	3 5/8	4 1/2	4 3/4
Length Jaws Open	2 5/8	2 5/8	2 5/8	3 3/4	3 3/8
Diameter	2 1/16	2 3/8	2 3/8	2 1/2	2 9/16
Weight	1 11/16	1 15/16	1 15/16	2 7/8	3 1/8
Threaded Hole	3/4x16	1x8	1x10	+	+
	†1 1/8x8, 1 1/8x10, 1 1/2x8 in.	†1 1/2x8, 1 5/8x8, 1 3/4x8, 1 7/8x8 in.			

Jacobs Taper Arbors



For the drilling machine, lathe, etc.
Made of soft machinery steel.

When ordering specify model number of chuck, style and taper number of arbor.

Morse Taper		Brown & Sharpe Taper		Jarno Taper	
No.	Each	No.	Each	No.	Each
0	\$1.50	7	\$2.00	5	\$3.00
1	.80	8	3.00	6	3.00
2	.80	9	5.00	7	3.00
3	1.20	10	6.00	8	3.00
4	2.00	30	12.00	9	4.50
5	3.50		Camlock	10	6.00
				11	7.00

Style C Procnier Double-Jaw Safety Tapping Chucks



This tool is designed for work on machines which reverse. By using this tool, which is equipped with the Procnier safety friction device, the power of the machine is regulated, as the safety friction can be adjusted to any tension desired. With it blind holes can be tapped just as easily as through holes, and without danger of tap breakage.

Style C is equipped with new style Procnier tap holder.

No.	Each	Machine Tap Capacity Inches	Pipe Tap Capacity Inches	Morse Taper Shank
2C	\$16.00	3/16 to 7/16	0 to 1/8	1-2-3
3C	21.00	3/16 to 5/8	1/8 to 3/4	2-3-4
4C	28.00	1/2 to 7/8	1/4 to 1/2	3-4

Style B Procnier Double-Jaw Positive Tapping Attachments



For non-reversing drill presses.
For tapping in material where there is a little or no danger of tap breakage. Automatically reverses when the drill press spindle is raised.

Balanced reversing mechanism eliminates all side pull or torsion on the body of the tool.

The bearings are bushed and easily renewable.

All gears are made of steel and hardened.

Size No.	2-B	3-B	4-B
Each	28.00	34.00	46.00
Machine Tap. Capacity	3/16 to 7/16	5/16 to 5/8	1/2 to 7/8
Pipe Tap Capacity	0 to 1/8	1/8 to 1/4	1/4 to 1/2
Size Morse Taper Shank	1-2-3	2-3-4	3-4

Style A Procnier Double Jaw Safety Tapping Attachments

For Drill Presses

The double jaw tap holder affords a secure grip on both the round and square of the tap.

The balanced reversing mechanism prevents side pull or torsion on body of the tool.

All hardened gears and specially treated, rugged clutches insure long wear. Foolproof safety friction device prevents tap breakage when hitting bottom with the tap.

Size No. 2 3 4
Style A. Each \$34.00 40.00 52.00

Machine Tap
Cap. in. 3/16-7/16 5/16-5/8 1/2-7/8
Pipe Tap Cap. in. 0-1/8 1/8-1/4 1/4-1/2
Size Morse Taper Shank 1-2-3 2-3-4 3-4



Style D Procnier Safety Tapping Chucks



For reversing drill or tapping machine.

Has no reversing mechanism, and must be used on a machine which can be reversed for backing out the tap. For blind tapping, the Friction chuck must be used.

For through tapping on reversible machines use the Procnier double-jaw tap holder with the visible grip.

With this chuck the tap can be seen as it rests in the jaws.

The case and parts are of fine tool steel.

Only one place to tighten.

No.	Each	Machine Tap Capacity Inches	Pipe Tap Capacity Inches	Morse Taper Shank No.
2-D	\$8.00	3/16 to 7/16	0 to 1/8	1-2-3
3-D	10.50	3/16 to 5/8	1/8 to 1/4	2-3
4-D	14.00	1/2 to 7/8	1/4 to 1/2	3-4

Style H Procnier Quick Change Chucks



By adapting this type of chuck, machine is converted to a semi-multiple, as any number of cutters may be used in it, and changes may be made without stopping machine.

By lifting the collar, the collet with cutter will drop.

Size No.	Each	Morse Taper Shanks	O.D. of Chuck Inches	Wt. Lb.
1H	\$4.00	1-2	1 5/16	1 1/2
2H	5.00	1-2-3	1 3/4	1 5/8
3H	6.50	2-3-4	2 1/4	2 3/16
4H	10.00	3-4	2 15/16	4 3/8
5H	15.00	4-5	3 1/2	8

Collets



Size No.	HA	HB	HC	HD	HE	HF	HG	HH
1	\$1.20	\$1.20	\$1.40	\$6.00	\$1.40	\$3.50	\$2.00	\$1.30
2	1.30	1.30	1.60	.80	1.60	5.00	2.50	1.50
3	1.60	1.60	2.00	1.00	2.00	7.50	3.50	1.80
4	3.00	3.00	3.75	1.20	2.50	....	4.50	3.50
5	5.00	5.00	....	1.75	....	....	....	6.00
	Morse Tapers in. HA	Morse Tapers in. HB	Short Morse Tapers in. HC	HD	HE	For Dits with O.D. HF	CAPACITY OF TAP, INCHES HG	O.D. of Collets HH
1	1	1	1	Blank	Blank	1	7/16	1 1/16
2	1-2	1-2	1-2	Blank	Blank	1 1/2	5/8	1 5/16
3	1-2-3	2-3	1-2-3	Blank	Blank	2	3/4	1 3/4
4	2-3-4	3-4	2-3-4	Blank	Blank	....	1 1/4	1 11/16
5	3-4-5	4-5	....	Blank	Blank	....	2	2 1/4

State diameter of square and round of tap shank in decimals.



No. EX

Procunier Hi-Speed Tappers For Light Drill Presses

Special quill clamping adaptors have been developed for attaching Procunier high speed tapping heads to drill presses which have short drill chuck tapers or Morse taper sockets in their spindles.

Rigid and accurate mounting is secured with fittings which clamp directly around the press quill.

Capacities Applying to the Heads Listed Below

Size Head	CAPACITY, INCHES			Pipe Tap in C.I., In.
	Brass	Cast Iron	Steel	
No. 1	0- $\frac{1}{4}$	0- $\frac{1}{4}$	0- $\frac{3}{16}$	.....
No. 2	#8- $\frac{1}{2}$	#8- $\frac{3}{8}$	#8- $\frac{5}{16}$	$\frac{1}{8}$
No. 3	$\frac{1}{4}$ - $\frac{3}{4}$	$\frac{1}{4}$ - $\frac{5}{8}$	$\frac{1}{4}$ - $\frac{1}{2}$	$\frac{1}{8}$ - $\frac{1}{4}$

Style J Procunier Quick Change Tapping Attachments

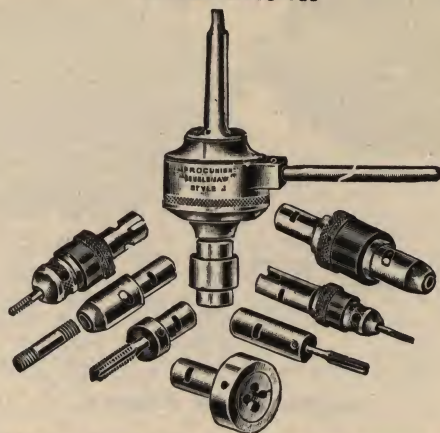


Illustration Shows a Few of the Various Tools Which May Be Used on This Attachment

Used for certain class of work where it is necessary to use more than one size tap. By holding the taps in the style HG or HH collets, any number of taps may be used and changes may be made without stopping the machine.

External threads may be cut on parts with this attachment by using the style HF collet which holds round dies.

Holes may be tapped and studs driven tight without moving the work out of alignment by changing tools, when using either style N or P Stud Setter, with this attachment.

Will handle larger taps in cast iron.

Size No.	Each	Machine Tap Capacity Inches	Pipe Tap Capacity Inches	Size of Morse Taper Shank	Size No. Collets to Fit These Tools	Size No. Stud Setters to Fit These Tools
2-J	\$28.00	$\frac{3}{16}$ to $\frac{1}{16}$	$\frac{1}{8}$	1-2-3	1	2
3-J	34.00	$\frac{5}{16}$ to $\frac{5}{8}$	$\frac{1}{8}$ to $\frac{1}{4}$	2-3-4	2	3
4-J	46.00	$\frac{1}{2}$ to $\frac{7}{8}$	$\frac{1}{4}$ to $\frac{1}{2}$	3-4-5	3	4

High Speed Tapping Heads for Delta Drill Presses

Style EX for Delta 14-Inch Drill Presses

No. 1-EX, Complete with Tru-Grip Tap Holder, Set of 4 Tap Collets, 2 Wrenches, and Drill Press Tap Head Spindle.....each \$44.85

No. 2-EX, Complete with Tru-Grip Tap Holder, Set of 7 Tap Collets, 2 Wrenches, and Drill Press Tap Head Spindle.....each 60.00

Style EF for Delta 17-Inch Drill Presses

Driving power is supplied through a No. 2 Morse taper shank which engages the taper socket in drill press spindle.

No. 2-EF, Complete with Tru-Grip Tap Holder, Set of 7 Tap Collets, 2 Wrenches.....each \$65.00

No. 3-EF, Complete with Tru-Grip Tap Holder, any 4 Tap Collets, 2 Wrenches.....each 90.00

High Speed Tappers for Atlas, Driver, Buffalo, Canedy-Otto Royal Drill Presses

No. 1-EW

Fits Atlas No. 60 and 70 Series and Driver 900 Series. Complete with Tru-Grip tap holder, set of 4 collets, 2 wrenches, and adapter.

No. 1-EW.....each \$42.00

No. 2-EW

Fits Atlas No. 60 and 70 Series and Driver 900 Series. Complete with Tru-Grip tap holder, set of 7 collets, 2 wrenches, and adapter.

No. 2-EW.....each \$58.00

No. 1-ER

Fits Buffalo 14 and 15-inch. Complete with Tru-Grip tap holder, set of 4 collets, 2 wrenches, and adapter.

No. 1-ER.....each \$42.00

No. 2-ER

Fits Buffalo 14 and 15-inch. Complete with Tru-Grip tap holder, set of 7 collets, 2 wrenches, and adapter.

No. 2-ER.....each \$57.00

No. 1-EZ

Fits Canedy-Otto Royal with drill chuck taper. Complete with Tru-Grip tap holder, set of 4 collets, 2 wrenches, and adapter.

No. 1-EZ.....each \$42.00

No. 2-EZ

Fits Canedy-Otto Royal with drill chuck taper. Complete with Tru-Grip tap holder, set of 7 collets, 2 wrenches, and adapter.

No. 2-EZ.....each \$57.00

No. 1-EY

Fits Canedy-Otto Royal with No. 2 M.T. socket spindle. Complete with Tru-Grip tap holder, set of 4 collets, 2 wrenches, and adapter.

No. 1-EY.....each \$42.00

No. 2-EY

Fits Canedy-Otto Royal with No. 2 M.T. socket spindle. Complete with Tru-Grip tap holder set of 7 collets, 2 wrenches, and adapter.

No. 2-EY.....each \$57.00

Specify size and style of head and make of press.

No. 760 Brown & Sharpe Toolmakers' Magnetic Blocks

Permanent Magnet Type



Iron or steel work, wide enough to span the narrow insert in top of block, can be held firmly on it for testing, inspecting and hand operations. In addition, block can be used on machine tables for holding work for either wet or dry grinding.

When control is turned on, work is held firmly on the block, and if block rests on a conductive surface, it also is held firmly to this surface.

Work and block are both released when control is in off position. Holding power can be regulated by giving control a part turn so that work can be removed from or positioned on block without removing block from conductive surface.

Magnetic pull on end of block permits it to be used, also, in an upright position on a conductive surface. Block does not heat under any conditions and can be left on as long as desired without damage to work or block.

Block has only one movable part—the magnet, which is made of a special alloy and will retain its holding power indefinitely. Working surface and base of block are ground parallel and back end is ground square with working surface.

Two removable stop plates are furnished, one for back end and one for use on either side of block.

Magnetic and working surface, $2\frac{1}{2} \times 5\frac{1}{4}$ inches. Width over all, $2\frac{3}{16}$ inches; height, $2\frac{5}{8}$ inches; length over all, $6\frac{1}{4}$ inches.

No. 760.....each \$28.00

Brown & Sharpe Magnetic Chucks
Permanent Magnet Type—Rectangular Model
PATENTED



Does not require electric current. All electrical connections, wires, switches, and auxiliary generators are eliminated. The magnets, of a special alloy, are many times stronger than magnets previously available and last indefinitely. Chucks have a stronger holding power than that customarily found. They do not heat under any condition, and work can be held on the chuck as long as desired without damage to the work or chuck.

Work is securely held when the crank is in the On position, and released by a simple 180° movement of crank to the Off position.

Substantially made. Working surface and base are ground parallel. Two removable stop plates, one for back and one for left hand end, are adjustable vertically to suit work.

Moving parts equipped with oilless bearings.

Two clamps furnished for holding chuck to machine table.

No.	510	618	824
Each	\$88.00	126.00	176.00
Working Surface.....in.	5 $\frac{5}{8}$ x10 $\frac{3}{8}$	6 $\frac{3}{8}$ x18 $\frac{1}{8}$	8 $\frac{3}{8}$ x24 $\frac{7}{8}$
Magnetic Surface (Approx.) in.	3 $\frac{7}{8}$ x 7 $\frac{1}{2}$	4 $\frac{1}{2}$ x14 $\frac{1}{16}$	6 $\frac{1}{16}$ x19 $\frac{3}{4}$
Base Dimensions.....in.	5 $\frac{5}{8}$ x11 $\frac{1}{16}$	6 $\frac{3}{8}$ x18 $\frac{1}{8}$	8 $\frac{3}{8}$ x24 $\frac{7}{8}$
Height Chuck.....in.	3 $\frac{3}{8}$	3 $\frac{3}{8}$	3 $\frac{3}{4}$
Lgth. Over all with Crank in			
On Position.....in.	12 $\frac{3}{8}$	21	28 $\frac{1}{4}$
Width Over all Incl. Crank..in.	8 $\frac{3}{16}$	10 $\frac{3}{8}$	11 $\frac{3}{4}$
Shipping Weight.....lb.	50	104	196

No. 9R Brown & Sharpe Magnetic Chucks
Permanent Magnet Type—Rotary Model
PATENTED



Suited for grinding operations, for light cuts on lathe work and other machine operations. Adapted for wet as well as dry grinding. Does not require electric current.

A $\frac{1}{4}$ -inch tapped hole in a steel bushing provides for attaching a locating button for centering work.

Holding power controlled by giving operating handle a part turn so that work can be moved or tapped into position and centered accurately.

Working surface is ground parallel with the back and at right angles with the axis of the chuck.

Back of chuck is recessed and has four tapped holes for attaching spindle adapter plate used in mounting chuck on machine spindle. Rim of chuck is cut away in two places to accommodate clamps for clamping chuck to machine table.

Working surface, diameter, 9 inches; magnetic surface, diameter, 7 inches; chuck diameter, 9 $\frac{1}{4}$ inches. Thickness, 3 $\frac{3}{8}$ inches.

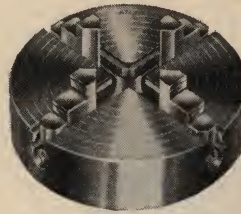
Furnished with detachable T handle.

Spindle adapter plates, prices upon request.

Shipping weight, 57 pounds.

No. 9R.....each \$135.00

No. U-370 Atlas Medium Duty 4-Jaw
Independent Lathe Chucks
6-Inch—For Atlas 10-Inch Lathes



For holding work of all shapes. Body threaded for 10 inch lathe spindle. No adapter required.

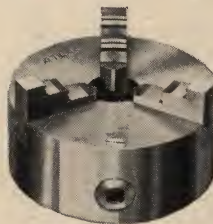
One-piece body is high strength semi-steel casting, entire face is ground. Hand fitted jaws are heat treated alloy steel; deep shoulders have raised and ground steps for full, firm inside or outside grip. Jaws are reversible for large diameters. Alloy steel

screws are heat treated and have socket head for wrench.

Weight, 10 pounds.

No. U-370, with Wrench.....each \$12.50

No. U-435 Atlas Medium Duty 3-Jaw
Universal Lathe Chucks
5-Inch—For Atlas 10-Inch Lathes



Handles rods through headstock. Centers round and hexagonal stock.

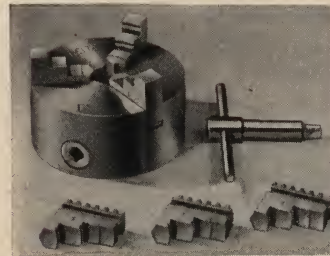
Body threaded for 10 inch lathe spindle. No adapter required.

Body is high strength semi-steel; scroll is special alloy metal; pinion is alloy steel. Self-centering jaws, controlled by turning one screw, are alloy steel heat treated, and have raised and ground steps.

Weight, 7 $\frac{1}{2}$ pounds.

No. U-435, with 2 Sets of Jaws, Inside and Outside, and Wrench.....each \$18.95

Delta Universal Chucks



A 3-jaw chuck in which the jaws move in and out simultaneously through the use of one key. Self-centering, with heavy cast iron body and 2 sets of hardened steel jaws. Adaptable for either 11 or 12-in. lathes.

Diameter, 4 inches. Maximum capacity, 4 in.

No. 963, Chuck with Inside and Outside Hardened Steel Jaws and Wrench; without Back Plate.....each
No. 963A, Back Plate for No. 963 Turned and Threaded to Fit Spindle of Nos. 930 and 1460 Lathes; Not fitted to Chuck.....each
No. 964, Back Plate for Nos. 963 and 943A, Completely Unfinished; for Lathes of Other Make.....each

No. 535 Standard Lathe Centers
High Speed Steel



The point of this lathe center is **high speed** steel. It will hold its accuracy of angle and will not burn off in work revolved at a high rate of speed. Both ends are hardened, and the shanks are ground to standard taper.

The included angle of the points is 60°, ground true. Other angles can be made to order.

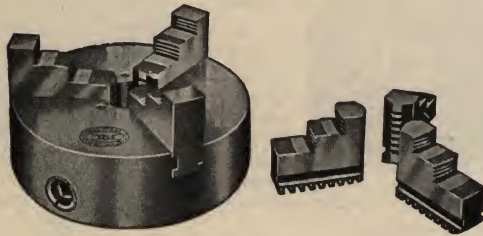
Std. Taper Shank No.	0	1	2	3	4	5
No. 535.....each	\$1.50	1.75	2.50	3.25	4.75	9.25
Length Overall....in.	2 $\frac{7}{8}$	3 $\frac{3}{16}$	4 $\frac{3}{16}$	5 $\frac{1}{4}$	6 $\frac{3}{4}$	8 $\frac{1}{2}$
Length Body.....in.	$\frac{3}{4}$	1	1 $\frac{1}{16}$	1 $\frac{1}{8}$	2 $\frac{1}{16}$	3 $\frac{1}{16}$

Union Geared Scroll Lathe Chucks

Iron Body with 2 Sets of Jaws

No. 153, 3-Jaw

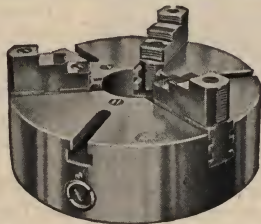
No. 154, 4-Jaw



A solid iron shell scroll chuck (self centering), complete with one set of each (inside and outside jaws). The shell is in one piece, making a solid, substantial chuck.

Size Inches	No. 153 3-Jaw Each	No. 154 4-Jaw Each	Diam. Inches	Face Plate Recess Inches	Center Hole Inches	Weight Pounds
2 1/2	\$39.00	.....	2 9/16	1 15/16	5/8	3
3	44.00	\$48.00	3 1/4	2 7/8	5/8	4
4	50.00	54.00	4 3/8	3	1	9
5	54.00	60.00	5 1/4	3 11/16	1 1/4	13
6	62.00	68.00	6 3/16	4 3/4	1 9/16	21
8	77.00	96.00	8	4 3/4	2 1/8	40
10	92.00	107.00	10	7	3	70
12	113.00	125.00	12 1/2	7	3	104
15	161.00	173.00	15	8	3 1/4	172
18	285.00	360.00	18	10	3 1/2	253
21	375.00	465.00	21 1/4	11	4 1/2	341
24	488.00	593.00	24	14	4 1/2	456

No. 179 Union Extra Heavy Geared Scroll Universal Chucks

Iron Body—3-Jaw
With Reversible Top Jaws

Having all the excellent qualities of the regular universal scroll chucks, plus the double rib and groove construction between the jaws and body, this is undoubtedly the outstanding type of universal chuck for heavy duty turret lathe work.

The double rib type of universal chuck has been approved by machine-tool builders and adopted by many as standard equipment.

The reversible jaw used in the No. 179 Chuck body is the double cross tongue jaw. Its rigidity approaches a solid jaw, and its adaptability is self-evident. Any style or shape of special fixture can be readily attached to the bases.

Size Inches	Each	Diameter Inches	Face Plate Recess Inches	Center Hole Inches	Weight Pounds
6	\$74.00	6 5/16	4 3/4	1 9/16	30
8	90.00	7 7/16	4 3/4	2	40
9	113.00	9 3/8	5 3/4	2 1/2	76
12	149.00	12 5/8	7	3	122
15	210.00	15	8	3 1/4	205
18	323.00	18	10	3 1/2	306
21	413.00	21 1/4	11	4 1/2	418
24	525.00	24	14	4 1/2	529

No. 518 Union Medium Duty Iron Body Improved Independent Chucks

For general utility work in general shop, job shop and tool room. Any shape that lends itself to chucking can be held.

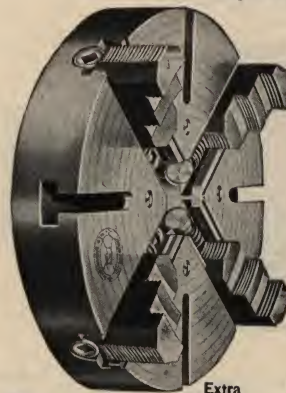
Jaws are hardened and ground. Screws nickel-chrome steel, heat treated with steel thrust-bearings.

The 12-inch and larger sizes have T slots. In ordering chucks, state the size and number. In independent chucks each jaw operates to or from the center separately.



Size Inches	Each	Extra Jaws Set of 4	Diam. Inches	Center Hole In.	Face Plate Recess In.	Weight Pounds
4	\$41.00	\$20.00	4	1 1/8	3 11/16	8
5	44.00	23.00	5	1 1/8	3 11/16	10
6	48.00	24.00	6	1 3/8	5	18
8	56.00	32.00	8 1/4	2 1/8	5	36
9	60.00	35.00	9	2 1/8	5	45
10	71.00	35.00	10	2 1/8	5	69
12	84.00	44.00	12	3	7	98
14	92.00	44.00	14	3	8	125
15	101.00	50.00	15	4	8	140
16	108.00	50.00	16	4	8	155
18	140.00	72.00	18	4 3/4	10	235
20	161.00	72.00	20	4 3/4	10	268
21	176.00	72.00	21	4 3/4	10	290
22	186.00	72.00	22	4 3/4	10	310
24	209.00	72.00	24	4 3/4	12	350
26	234.00	90.00	26	6	12	...
28	266.00	90.00	28	6	12	...
30	330.00	90.00	30	6	12	...
32	380.00	123.00	32	6	17 3/4	...
34	420.00	123.00	34	6	17 3/4	...
36	480.00	123.00	36	6	17 3/4	...

No. 564 Union Medium Duty Steel Independent Chucks



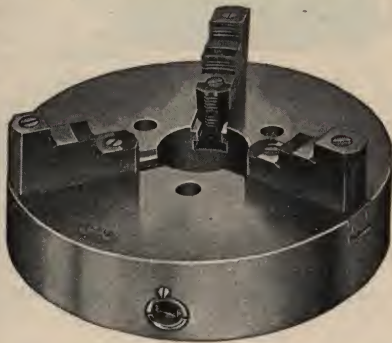
Body of chuck is forged steel. Jaws are extra wide and screw is nickel-chrome steel, heat treated over all, extra large.

Heaviest work or deepest cut can be taken with this chuck without fear of breaking or weakening the chuck. Sizes 12-inch and larger have T slots; 18-inch and larger have double creased jaws.

Size Inches	Each	Extra Jaws Set of 4	Diam. Inches	Center Hole Inches	Face Plate Recess Inches	Weight Pounds
6	\$80.00	\$41.00	6	1 3/4	5	21
8	92.00	48.00	8 1/4	2 1/8	5	53
9	101.00	48.00	9	2 1/8	5	70
10	108.00	54.00	10	2 3/4	5	80
12	137.00	60.00	12	3	7	116
14	156.00	60.00	14	3	8	150
15	168.00	65.00	15	3 1/2	8	199
16	176.00	65.00	16	4 1/8	8	215
18	212.00	80.00	18	4 1/8	10	290
20	245.00	80.00	20	4 1/4	10	320
21	258.00	86.00	21	4 1/4	10	360
22	272.00	96.00	22	5	10	382
24	306.00	96.00	24	5	12	540
26	350.00	120.00	26	5	12	630
28	416.00	120.00	28	6	12	735
30	486.00	144.00	30	6	16 1/8	...
32	581.00	144.00	32	6	16 1/8	...
34	650.00	144.00	34	6	16 1/8	...

Union Geared Scroll Lathe Chucks

3 and 4-Jaw, Iron Body
With Two-Piece Reversible Top Jaws



A solid iron shell scroll chuck (self centering), with reversible top jaws. The shell is in one piece, making a solid substantial chuck.

Size Inches	EACH		Diameter Inches	Face Plate Recess Inches	Center Hole Inches	Weight Pounds
	No. 163 3-Jaw	No. 164 4-Jaw				
3	\$44.00	\$48.00	3 1/4	2 7/8	5/8	4
4	50.00	54.00	4 3/8	3	3/4	10
5	54.00	60.00	5 1/4	3 11/16	7/8	15
6	62.00	68.00	6 3/16	4 3/4	1 9/16	19
8	77.00	96.00	8	4 3/4	2	40
10	92.00	107.00	10	5 3/4	3	70
12	113.00	125.00	12 1/2	7	3	96
15	161.00	173.00	15	8	3 1/4	156
18	285.00	360.00	18	10	3 1/2	255
21	375.00	465.00	21 1/4	11	4 1/2	319
24	488.00	593.00	24	14	4 1/2	456

Union Geared Scroll Combination Chucks
 Solid Reversible Jaws—Self-Centering

Nos. 583 and 584, Iron Body
Nos. S583 and S584 Steel
Body

A combination chuck universal, independent, eccentric. Made with either three or four jaws. All jaws moved concentrically by applying wrench to any pinion.

Individual jaws are operated by turning the independent screws.

The body is of the solid one-piece construction. Universal pinions of chrome steel.

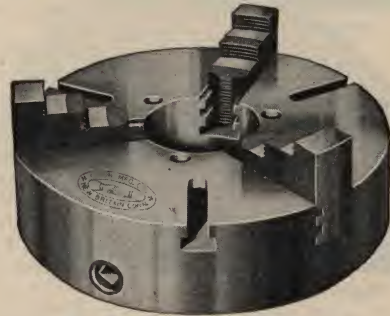
Independent screws have two thrust-bearing necks, instead of the usual single thrust bearing.

Jaws are made of special analysis steel, hardened and ground to gage, carefully hand fitted in the jaw lock and all chucking surfaces ground and tested in each chuck.

Size In.	Iron Body		Steel Body		Diam. In.	Face Plate Recess Inches	Center Hole Inches	Wt. Lb.
	No. 583 3-Jaw Each	No. 584 4-Jaw Each	No. S583 3-Jaw Each	No. S584 4-Jaw Each				
4	\$80.00	\$90.00	\$80.00	\$90.00	4 3/8	3	3/4	12
5	89.00	98.00	89.00	98.00	5 1/4	3 11/16	7/8	20
6	101.00	113.00	101.00	113.00	6	4 3/4	1 9/16	29
8	122.00	139.00	166.00	186.00	8 1/4	4 3/4	2 1/8	40
10	143.00	159.00	193.00	214.00	10	7	3	75
12	168.00	188.00	230.00	260.00	12 5/8	7	3	125
15	212.00	240.00	281.00	320.00	15	8	3 1/4	205
18	398.00	458.00	488.00	548.00	18	10	4 3/4	305
21	488.00	548.00	615.00	675.00	21 1/4	11	4 1/2	403
24	600.00	660.00	758.00	825.00	24	14	7 1/2	500

Union Heavy Geared Scroll Universal Chucks

Steel Body—3-Jaw

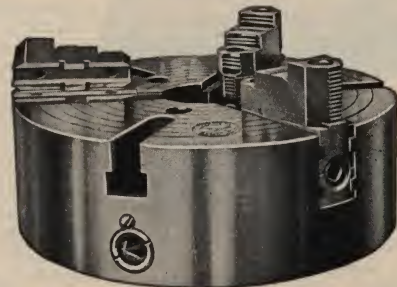


No. S-81 with 2 Sets of Jaws

These steel body chucks are 3 times stronger than iron. They can be furnished with either type of jaws.

The chucks have double jaw locks instead of the usual single; thus the jaws retain their original close fit much longer, as there is twice the wearing surface.

Size In.	EACH		Diam. In.	Diam. Face Plate Recess Inches	Center Hole In.	Gross Wt. Lbs.
	No. S-81 with 2 Sets of Jaws	No. S-179 with Re- versible Top Jaws				
8	\$138.00	\$138.00	7 7/16	4 3/4	2	40
9	173.00	173.00	9 3/8	5 3/4	2 1/2	76
12	230.00	230.00	12 1/2	7	3	122
15	323.00	323.00	15	8	3 1/4	205
18	450.00	450.00	18	10	3 1/2	306

Union Geared Scroll Combination Chucks
 Steel Body
 With 2-Piece Removable and Reversible Top Jaws


The best features of the universal scroll and independent chucks are retained in the geared scroll combination chuck. The body is of solid one-piece construction, made of steel.

The jaws are made of special analysis steel, hardened and ground to gauge, carefully hand fitted in the jaw lock.

Independent screws have two thrust-bearing necks, instead of the usual single thrust bearing. They are made of chrome nickel steel, heat treated and hardened at bearings and wrench end.

Universal pinions of chrome nickel steel, heat treated, of large size and with extra strong teeth, are amply heavy for the hardest duty.

Size Inches	EACH		Diam. Inches	Diam. Face Plate Recess Inches	Center Hole Inches	Gross Weight Pounds
	No. S-383 3-Jaw	No. S-384 4-Jaw				
8	\$231.00	\$261.00	8	5 3/4	2 1/2	76
10	258.00	289.00	10	5 3/4	3	95
12	312.00	357.00	12 1/2	7	3	135
15	378.00	432.00	15	8	3 1/4	225
18	615.00	698.00	18	10	3 1/2	400
21	768.00	855.00	21 1/4	11	4 1/2	565
24	911.00	1005.00	24	14	4 1/2	690

Armstrong Tool Holders



Straight Shank



Left Hand, Offset



Right Hand, Offset

Holders are drop forged from a special steel which combines stiffness and strength. Accurately machined, heat treated and hardened.

Setscrew is made of forged alloy steel with hardened point.

Cutters are made from stock size and shape of steel.

One holder with a few cutters will do any job on the lathe or shaper; roughing, facing, finishing, corner and fillet work.

Saves all forging and most of the grinding.
Price includes wrench and one high speed cutter bit.

Straight Shank	No. Left Hand	Right Hand	Each	Extra Cutter Bits High Speed Each	Size Holder Inches	Size Cutter In. Sq.
000-S	000-L	000-R	\$2.70	\$1.15	$\frac{5}{16} \times \frac{1}{2} \times 4$	$\frac{3}{16}$
00-S	00-L	00-R	2.70	.15	$\frac{5}{16} \times \frac{3}{4} \times 4\frac{1}{2}$	$\frac{3}{16}$
0-S	0-L	0-R	2.85	.20	$\frac{3}{8} \times \frac{1}{2} \times 5$	$\frac{1}{4}$
1-S	1-L	1-R	3.25	.35	$\frac{1}{2} \times 1\frac{1}{8} \times 6$	$\frac{5}{16}$
2-S	2-L	2-R	4.00	.55	$\frac{5}{8} \times 1\frac{3}{8} \times 7$	$\frac{3}{8}$
3-S	3-L	3-R	5.40	.90	$\frac{3}{4} \times 1\frac{5}{8} \times 8$	$\frac{7}{8}$
4-S	4-L	4-R	6.90	1.30	$\frac{7}{8} \times 1\frac{3}{4} \times 9$	$\frac{1}{2}$
5-S	5-L	5-R	9.75	2.35	1 x 2 x 11	$\frac{5}{8}$
6-S	6-L	6-R	13.50	3.85	$1\frac{1}{4} \times 2\frac{1}{4} \times 13$	$\frac{3}{4}$
7-S	7-L	7-R	22.50	5.85	$1\frac{1}{2} \times 2\frac{1}{2} \times 16$	$\frac{7}{8}$
750-S	750-L	750-R	33.00	8.35	$1\frac{5}{8} \times 2\frac{3}{4} \times 18$	1
800-S	800-L	800-R	42.75	11.35	$1\frac{3}{4} \times 3 \times 20$	$1\frac{1}{8}$

Armstrong Cutting Off Tools



Straight Shank



Left Hand, Offset



Right Hand, Offset

As cutter is adjustable to any desired clearance the greatest possible support is obtainable under all conditions.

The cutters are beveled on both sides and are held at an angle, giving the side clearance and top rake needed to obtain a clean smooth cut.

Price includes wrench and one high speed cutter.

Straight Shank	No. Left Hand	Right Hand	Each	Extra Cutters High Speed Each	Size Shank Inches	Size Cutter Inches
19	29-L	29-R	\$2.85	\$1.60	$\frac{5}{16} \times \frac{3}{4}$	$\frac{3}{32} \times \frac{1}{2}$
20	30-L	30-R	3.00	.65	$\frac{3}{8} \times \frac{1}{8}$	$\frac{3}{32} \times \frac{5}{8}$
21	31-L	31-R	3.60	.90	$\frac{1}{2} \times 1\frac{1}{8}$	$\frac{1}{8} \times \frac{3}{4}$
22	32-L	32-R	4.50	1.30	$\frac{5}{8} \times 1\frac{3}{8}$	$\frac{1}{8} \times \frac{7}{8}$
23	33-L	33-R	6.00	2.15	$\frac{3}{4} \times 1\frac{5}{8}$	$\frac{3}{16} \times 1$
24	34-L	34-R	7.50	2.90	$\frac{7}{8} \times 1\frac{3}{4}$	$\frac{3}{16} \times 1\frac{1}{8}$
25	35-L	35-R	9.75	4.00	1 x 2	$\frac{1}{4} \times 1\frac{1}{4}$
26	36-L	36-R	11.65	4.65	$1\frac{1}{4} \times 2\frac{1}{4}$	$\frac{1}{4} \times 1\frac{3}{8}$

Armstrong Spring Threading Tools



Designed to combine strength and convenience of adjustment and operation with the resiliency considered by many machinists to

be helpful in obtaining a smooth, finishing cut or thread.

Complete rigidity conveniently obtained when desirable for taking a roughing cut or doing an ordinary job of turning. Cutter can be held at different angles. Price includes high speed V thread cutter and drop-forged wrench.

No.	S-50	S-51	S-52	S-53
Each	\$4.15	\$5.00	\$6.40	\$8.25
Extra Cutters, High Speed				
.....ea.	.35	.45	.55	.70
Holder.....in.	$\frac{3}{8} \times \frac{7}{8} \times 5\frac{1}{2}$	$\frac{1}{2} \times 1\frac{1}{8} \times 6\frac{1}{2}$	$\frac{5}{8} \times 1\frac{3}{8} \times 7\frac{1}{2}$	$\frac{3}{4} \times 1\frac{5}{8} \times 8\frac{1}{2}$
Cutter...sq. in.	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$

Armstrong Threading Tools



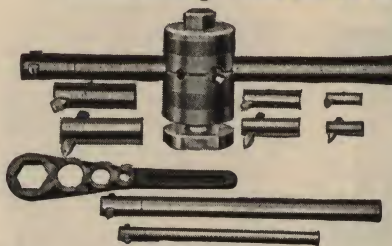
The cutters require grinding on the top edge only to sharpen, and therefore remain true to form and of the correct angle. Its use

thus insures good thread and saves much grinding. Price includes one High Speed single point cutter V, U. S. or Whitworth Standard and Wrench.

Tools equipped with single point V cutter will be shipped unless otherwise ordered.

No.	00T	50	51	52	53	54
Each	\$4.15	4.15	5.00	6.40	8.25	9.75
Size Tool..in.	$\frac{5}{8} \times \frac{1}{2} \times 5$	$\frac{3}{4} \times \frac{1}{2} \times 5$	$\frac{1}{2} \times 1\frac{1}{8} \times 6$	$\frac{5}{8} \times 1\frac{1}{8} \times 7$	$\frac{3}{4} \times 1\frac{1}{8} \times 8$	$\frac{3}{4} \times 1\frac{1}{2} \times 9$
Weight..lb.	$\frac{3}{4}$	$\frac{1}{8}$	$1\frac{1}{2}$	$2\frac{1}{4}$	$3\frac{1}{2}$	$4\frac{1}{4}$

Armstrong Three-Bar Boring Tools



Complete with holder; 3 bars with 30°, 45°, and 90° end caps; 9 high speed cutters; and combination wrench.

Bolt head and bottom part of holder must be fitted to each individual lathe.

No.	Each	Diam. Bar, In.	Size Cutter, In. Sq.
0-BB	\$14.00	$\frac{3}{8}$, $\frac{1}{2}$ and $\frac{3}{4}$	$\frac{3}{16}$ and $\frac{1}{4}$
1-B	22.50	$\frac{1}{2}$, $\frac{3}{4}$ and $1\frac{1}{8}$	$\frac{3}{16}$, $\frac{1}{4}$ and $\frac{3}{8}$
2-B	30.00	$\frac{9}{16}$, $1\frac{1}{8}$ and $1\frac{1}{2}$	$\frac{3}{16}$, $\frac{1}{2}$ and $\frac{1}{2}$
3-B	52.50	$\frac{3}{4}$, $1\frac{1}{8}$ and $1\frac{1}{2}$	$\frac{1}{4}$, $\frac{3}{8}$ and $\frac{1}{2}$
4-B	75.00	$\frac{15}{16}$, $1\frac{1}{8}$ and $1\frac{3}{8}$	$\frac{5}{16}$, $\frac{1}{2}$ and $\frac{5}{8}$

Extra High Speed Cutter Bits

Size	.....in. sq.	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{5}{8}$
90°	.....each	\$1.10	\$1.12	\$1.24	\$1.40	\$1.55	\$1.80	\$1.40
45° and 30°	.....each	.10	.18	.30	.50	.75	1.00	1.80

* $\frac{3}{8}$ -inch bar is solid.
An extra charge of \$2.00 is made for tools Nos. 1-B and up when ordered fitted to special dimensions. Fitting charge for No. 0-BB, 75 cents extra.

MECHANICS TOOLS

We invite you to our Store to examine our complete assortment of Tools of all kinds.

Armstrong Boring Tools



Price includes holder and bar, 90°, 45° and 30° end caps, 3 high speed cutters and double head wrench.

Packed 1 in a box.

Extra Cutter Bits High Speed

No.	Complete Each	90° Each	45° and 30° Each	Size Shank Inches	Size Diam. Bar Inches	Cutter Square Inch	Wt., Lb.
00B	\$4.90	\$.10	\$.10	5/16x3/4	1/2	3/16	1 1/2
8	4.90	.10	.10	3/8x7/8	9/16	3/16	1 3/4
9	5.80	.12	.18	1/2x1 1/8	3/4	1/4	3 3/4
10	7.65	.24	.30	5/8x1 3/8	15/16	5/16	6 1/2
11	10.85	.40	.50	3/4x1 5/8	1 1/8	3/8	11
12	16.00	.55	.75	7/8x1 3/4	1 5/8	7/16	17
13	22.50	.80	1.00	1 x2	1 1/2	1/2	25

Armstrong Knurling Tools



Self centering and knuckle or joint has ample bearing to resist the severe strains of both end and side thrust. Knurls and pins made of tool steel suit-

ably tempered. All other parts are drop-forged or bar steel, hardened. Knurls can be furnished coarse, medium and fine, in either straight line or diamond pattern. Medium diamond knurls will be sent with tool unless otherwise ordered.

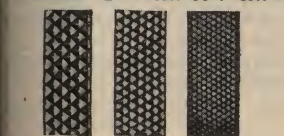
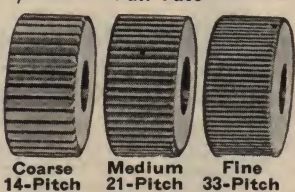
No.	Complete	Extra Knurls Per Pr.	Size Holder Inches	DIMENSIONS, KNURLS INCHES	Wt. Lbs.	Knurling Cap. In.
00-K	\$5.65	\$1.00	5/16x3/4	5/8 3/16 7/32 5/8 1/8 up	5/8	1/8 up
0-K	6.00	1.00	3/8x7/8	5/8 3/16 7/32 5/8 1/8 up	5/8	1/8 up
1-K	6.75	1.15	1/2x1 1/8	3/4 1/4 1/4 1 1/2 3/16 up	1 1/2	3/16 up
2-K	8.00	1.15	5/8x1 3/8	3/4 1/4 1/4 2 3/16 up	2	3/16 up
4-K	14.00	2.00	7/8x1 3/4	1 3/4 3/16 4 1/4 up	4	1/4 up

Armstrong Knurls

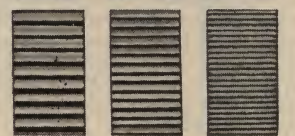
Diamond Pattern, Standard Face



Straight Line Pattern, Full Face



Actual Size of Knurling Produced by Pairs of Right and Left Hand Diamond Knurls



Actual Size of Knurling Produced by Pairs of Straight Line Full Face Knurls

Individually hob-cut from extra high carbon tool steel, heat treated, tempered and tested to obtain sharp perfectly formed teeth in every knurl. Held within close limits of accuracy for thickness and for diameter of hole which is always concentric. Furnished in pairs to fit all standard makes of knurling tools and are obtainable in diamond or straight line pattern, either standard or full face. When ordering, specify pitch, pattern, face, and tool number or diameter of knurls. Unless otherwise specified, medium diamond knurls with standard face will be furnished.

For Knurling Tool No.	Per Pair	Diameter	Face Width	Full Face Width	Hole Diameter	Thickness
00-K, 0-K	\$1.00	5/8	3/16	5/16	7/32	5/16
3-K-00, 3-K-0	1.00	5/8	3/16	5/16	7/32	5/16
*671, 672	1.00	5/8	3/16	5/16	7/32	5/16
1-K, 2-K	1.15	3/4	1/4	3/8	1/4	3/8
3-K-1, 3-K-2	1.15	3/4	1/4	3/8	1/4	3/8
*673, 674	1.15	3/4	1/4	3/8	1/4	3/8
4-K	2.00	1	1/4	3/8	5/16	3/8

*Knurling tools for screw machines and turret lathes.

Armstrong Ace Tool Holder Sets



Ace tool holders are drop forged from special steel, accurately machined, heat treated and hardened. May be purchased individually or in sets, for each is boxed separately with high speed steel cutter and wrench.

No. 8A Set

Set includes tools listed in fitted steel case. For 9 or 10-inch swing lathes. Size of tool shank, 3/8x3/4 inches. Size of cutter bit, 1/4 inch.

Contents

No. 2010-S, Straight Turning Tool.....	each	\$1.25
No. 2010-R, Right Off-Set Turning Tool.....	each	1.25
No. 2010-L, Left Off-Set Turning Tool.....	each	1.25
No. 2030, Boring Tool (With 1/4-In. Boring Bar and 1/4-In. Square Cutter Bit).....	each	3.00
No. 2020-S, Straight Cutting-Off Tool.....	each	1.50
No. 2020-R, Right Off-Set Cutting-Off Tool.....	each	1.50
No. 2040, Knurling Tool.....	each	3.00
No. 2050, Threading Tool.....	each	2.50
Extra High Speed Steel Cutter Bit, 1/4x2 1/8 In.....	each	.15
High Speed Cutters.....	set of 6	1.30
Single Cutter (Any Form Listed).....	each	.25
Extra High Speed Cutting-Off Blades, 3/32x5/8 In.....	each	.50
Extra Threading Tool Form Cutter.....	each	1.50
Extra Boring Bars, 3/16x4 1/2 In.....	each	.45
Extra Boring Bars, 1/4x5 In.....	each	.55
Extra Knurls (Diamond or Straight Line Patterns) in Fine, Medium or Coarse (Medium Diamond Sent Unless Otherwise Specified).....	set of 2	1.00
No. 8A Set Complete.....		14.50

Sharp V thread cutters provided except when U. S. Standard is specified.

No. 6A Set

Designed for the very small metal working lathe. Identical in pieces to the No. 8A set except that it has no straight cutting-off tool and boring tool cannot be reversed for left hand operation.

Includes tools listed in fitted steel case. For small lathes of about 6-inch swing. Size of tool shank, 3/16x1/2 inches. Size of cutter bit, 3/16 inch.

Contents

No. 1010-S, Straight Turning Tool.....	each	\$1.15
No. 1010-R, Right Off-Set Turning Tool.....	each	1.15
No. 1010-L, Left Off-Set Turning Tool.....	each	1.15
No. 1030, Boring Tool (with 1/4-In. Boring Bar and 1/4-In. Square Cutter Bit).....	each	2.80
No. 1020-R, Right Off-Set Cutting-Off Tool.....	each	1.40
No. 1040, Knurling Tool.....	each	2.80
No. 1050, Threading Tool.....	each	2.40
Extra High Speed Steel Cutter Bit, 3/16x1 3/4 In.....	each	.15
High Speed Cutters, 3/16-In. Square.....	set of 6	1.30
Single Cutter (Any Form Listed).....	each	.25
Extra High Speed Cutting-Off Blades, 3/32x1 1/2 In.....	each	.50
Extra Threading Tool Form Cutters.....	each	1.50
Extra Boring Bars, 3/16x4 1/2 In.....	each	.45
Extra Boring Bars, 1/4x5 In.....	each	.55
Extra Knurls (Diamond or Straight Line Patterns) in Fine, Medium or Coarse (Medium Diamond Sent Unless Otherwise Specified).....	set of 2	1.00
No. 6A Set Complete.....		12.25

Sharp V-thread cutters provided except when U.S. Standard is specified.

Armstrong High Speed Steel Bits

Unfinished—Hardened



Bits require grinding only to make them ready for use in Armstrong Tool Holders.

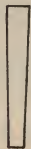
Squares for Turning and Boring Tools

FOR TURNING TOOLS			FOR BORING TOOLS		
Size Inches	Each	Length Inches	Size Inches	Each	Length Inches
3/16	\$.15	1 3/4	3/16	\$.10	1
1/4	.20	2 1/8	3/16	.10	1 1/4
5/16	.35	2 3/4	1/4	.12	1 1/4
3/8	.55	3 1/4	1/4	.18	1 3/4
7/16	.90	3 3/4	5/16	.24	1 1/2
1/2	1.30	4 1/4	5/16	.30	2 1/4
5/8	2.35	5	3/8	.40	1 7/8
3/4	3.85	5 3/4	3/8	.50	2 5/8
7/8	5.85	6 1/2	7/16	.55	2 1/8
1	8.35	7 1/4	7/16	.75	2 7/8
1 1/8	11.35	8	1/2	.80	2 3/8
....	....	....	1/2	1.00	3 1/4
....	....	....	5/8	1.40	2 3/4
....	....	....	5/8	1.80	4
....	....	....	3/4	2.75	3 1/8
....	....	....	3/4	3.40	5

Flats for Planer and Slotter Tools

FOR PLANER TOOLS			FOR SLOTTER AND GANG PLANER TOOLS		
Size Inches	Each	Length Inches	Size Inches	Each	Length Inches
1/4 x 3/8	\$.35	2 1/2	1/2 x 3/4	\$1.95	4 1/4
5/16 x 7/16	.55	3	5/8 x 7/8	3.35	5
3/8 x 1/2	.80	3 1/2	3/4 x 1	5.00	6
1/2 x 3/4	1.95	4 1/4	7/8 x 1 1/8	8.20	7
5/8 x 7/8	3.35	5	3/8 x 1/2	.80	3 1/2
3/4 x 1	5.00	6	1/2 x 3/4	1.95	4 1/4
7/8 x 1 1/8	8.20	7	5/8 x 7/8	3.35	5

Bevel for Cutting Off Tools



Special Shape for Side Tools



Size Inches	Each	Length Inches	Size, Inches On Lines AA and BB	Each	Length Inches
3/32 x 1/2	\$.40	4 1/2	1/8 x 1/2	\$.45	4 1/2
3/32 x 5/8	.40	5	5/32 x 5/8	.50	5
1/8 x 3/4	.65	6	3/16 x 3/4	.85	6
1/8 x 7/8	.95	7	1/4 x 7/8	1.45	7
3/16 x 1	1.75	8	5/16 x 1	2.20	8
3/16 x 1 1/8	2.20	9	3/8 x 1 1/4	3.40	9
1/4 x 1 1/4	3.40	10	7/16 x 1 3/8	4.60	10
1/4 x 1 3/8	4.00	11	1/2 x 1 1/2	7.35	11

NOTE.—Bevel and special shapes are rolled to approximate size, but require grinding on edges to bring to exact size fitting Armstrong Cutting Off and Side Tool Holders.

Clarite High Speed Steel Tool Holder Bits

Heat Treated—Ready for Use



A pure high alloy high speed steel made from the finest irons and alloys; high alloy content and extreme purity give it resistance to abrasion and strength.

Annealed, hardened and tempered under correct, controlled temperature and time conditions to give the high red hardness, wear resistance and strength desired in metal cutting tools.

Suitable for all the general uses of high speed steel. Has high cutting capacity on lathe, planer, and milling work, die work, blanking, punching, shearing, etc.

Put up in boxes of 5 and 10 pounds each; 10-pound boxes fitted with hinges and hasp.

SQUARES		FLATS		CUTTING-OFF BITS	
Size In.	Length In.	Size In.	Length In.	Size In.	Length In.
3/16	2 1/2	1/4 x 3/8	2 1/2	5/8 x 3/32	5
1/4	2 1/2	5/16 x 7/16	3	3/4 x 1/8	6
5/16	2 1/2	3/8 x 1/2	3 1/2	7/8 x 1/8	7
3/8	3	1/2 x 1 1/16	3 3/4	1 x 3/16	8
7/16	3 1/2	1/2 x 3/4	4 1/4	1 1/8 x 3/16	9
1/2	4	5/8 x 7/8	5	1 1/4 x 1/4	10
5/8	4 1/2	.....	.....	1 3/8 x 1/4	11
3/4	5	.....	.....	.....	..
7/8	6	.....	.....	.....	..

Double bevel cutting off bits hardened ready for use.

Flats can be furnished in special lengths and sizes.

Per Pound.....

Armide Cutters

For Use in Armstrong Tool Holders



Armide is an improved carbide cutting metal, a carbide alloy. Approaches the diamond in hardness and will machine chilled cast iron, hard and tough steels, hard rubber, bakelite, and other materials, without appreciable loss of edge. Remains cool and securely brazed at all times because of its extremely low thermal conductivity. Its edge stays smooth and clean, for Armide will not alloy with steel or iron. This characteristic prevents "grooving," the prime cause of cutting edge breakdown. On ordinary operations the cutter permits greatly increased speeds and extends the tool life from 10 to 200 times that of high speed steel. The Armide cutter is made in the standard shapes shown below.

Form A	Form B	Form C	Form D	Form E
Right Hand Turning and Facing	Left Hand Turning and Facing	Square Nose	Round Nose General Turning and Facing	60° Threading
Square Body			Flat Body	
Size Inches	Each	Length Inches	Size Inches	Length Inches
1/4	1 3/4	1/4 x 3/8	1 3/4
5/16	2 1/4	5/16 x 7/16	2 1/4
3/8	2 1/2	3/8 x 1/2	2 1/2
7/16	3	7/16 x 9/16	3
1/2	3 1/2	1/2 x 3/4	3 1/2
5/8	4	5/8 x 7/8	4

Specify by letter, form of cutter desired, also whether square or flat. Square sent unless otherwise specified.

Special sizes and shapes furnished. Prices upon receipt of specifications.

Armstrong Bent Tail Lathe Dogs



With Square Head Screw

Drop-forged from a special grade of open hearth steel.

Hubs are large enough to permit of retapping.

Alloy steel screws, with U.S. Standard thread. Hardened on the point.

Square head screw dogs shipped unless otherwise specified.



With Headless Screw

WITH SQUARE HEAD SCREW				WITH HEADLESS SCREW				Wrench Each	Weight Pounds
Cap. In.	No.	*Dog Complete Each	Extra Screw Each	No.	*Dog Complete Each	Extra Screw Each			
3/8	1	\$1.00	\$.20	1-H	\$1.00	\$.20	\$1.12		1/4
1/2	2	1.10	.22	2-H	1.10	.24	.14		3/8
3/4	3	1.20	.24	3-H	1.20	.30	.16		1/2
1	4	1.40	.28	4-H	1.40	.36	.18		3/4
1 1/4	5	1.70	.30	5-H	1.70	.42	.18		1 1/2
1 1/2	6	2.00	.38	6-H	2.00	.50	.18		2
1 3/4	7	2.40	.44	7-H	2.40	.60	.26		2 3/4
2	8	2.80	.52	8-H	2.80	.72	.26		3 1/2
2 1/2	9	3.60	.66	9-H	3.60	.86	.38		5 1/4
3	10	4.60	.72	10-H	4.60	.86	.38		6 3/4
3 1/2	11	6.00	1.00	11-H	6.00	1.16	.60		9
4	12	9.00	1.10	12-H	9.00	1.16	.60		12
5	13	16.00	1.50	13-H	16.00	1.50	.90		18
6	14	24.00	1.60	14-H	24.00	1.50	.90		24

* Price does not include wrench. † When ordering specify whether wrenches are wanted or not and if wanted how many.

Armstrong Straight Tail Lathe Dogs



With Square Head Screw

Drop-forged from a special grade of open hearth steel.

Hubs are large enough to permit of retapping.

Alloy steel screws, with U.S. Standard thread. Hardened on the point.

Square head screw dogs shipped unless otherwise specified.



With Headless Screw

WITH SQUARE HEAD SCREW				WITH HEADLESS SCREW				Wrench Each	Weight Pounds
Cap. In.	No.	*Dog Complete Each	Extra Screw Each	No.	*Dog Complete Each	Extra Screw Each			
3/8	21	\$1.00	\$.20	21-H	\$1.00	\$.20	\$1.12		1/4
1/2	22	1.10	.22	22-H	1.10	.24	.14		1/4
3/4	23	1.20	.24	23-H	1.20	.30	.16		1/2
1	24	1.40	.28	24-H	1.40	.36	.18		3/4
1 1/4	25	1.70	.30	25-H	1.70	.42	.20		1 1/4
1 1/2	26	2.00	.38	26-H	2.00	.50	.24		2
1 3/4	27	2.40	.44	27-H	2.40	.60	.26		2 1/2
2	28	2.80	.52	28-H	2.80	.72	.30		3 1/4
2 1/2	29	3.60	.66	29-H	3.60	.86	.38		4 3/4
3	30	4.60	.72	30-H	4.60	.86	.48		6 3/4
3 1/2	31	6.00	1.00	31-H	6.00	1.16	.60		8
4	32	9.00	1.10	32-H	9.00	1.16	.74		11
5	33	16.00	1.50	33-H	16.00	1.50	.90		17
6	34	24.00	1.60	34-H	24.00	1.50	1.10		22

* Price does not include wrench. † When ordering specify whether wrenches are wanted or not and if wanted how many.

Armstrong Heavy Duty Lathe Dogs



Bent Tail

With Square Head Screws



Straight Tail

Heavy duty lathe dogs are drop forged from steel selected for its high degree of stiffness, combined with great tensile strength, which qualities are further improved by careful treatment.

Bent Tail	No.	Straight Tail	Capacity Inches	Weight Pounds	Price Complete Each
...	128	2	5		\$5.50
...	129	2 1/2	6 3/4		7.00
...	130	3	8 3/4		9.00
...	131	3 1/2	12 1/2		12.00
112	132	4	15		16.00
113	133	5	21		24.00
114	134	6	29		34.00
...	135	7	37		46.00
...	136	8	50		56.00

For Dog Nos.	Price Each	For Dog Nos.	Price Each
128	\$.52	113-133	\$1.50
129	.66	114-134	1.60
130	.72	135	2.30
131	1.00	136	2.60
112-132	1.10	...	....

Armstrong Clamp Lathe Dogs

Drop-Forged



Under face of screw heads is convex, fitting into a concave seat, and as holes in upper bar are larger than screw, this allows for a considerable tilting without bending screws. Clamp bars are forged from stiff, open hearth steel, carefully machined and hardened. Screws are hardened. Each dog is boxed separately.

No.	11	12	13	14
Complete	\$3.00	\$4.00	\$5.00	\$7.00
Screws	.20	.30	.40	.60
Capacity between Screws	1 3/4	2 1/4	2 3/4	3 1/2
Weight	5/8	1	1 3/4	2 3/4

Armstrong Milling Machine Dogs



For use on taper work carried between centers on milling machines. Made of drop-forged steel. Flat tail engages head-slot without back-lash. Large hubs permit retapping. Alloy steel screws with U.S. Standard thread are hardened on point, improved shape rendering them less liable to flange or upset.

No.	Complete Each	Extra Screws Each	Capacity Inches	Weight Pounds
42	\$1.10	\$.22	1 1/2	3/4
43	1.20	.24	3/4	7/8
44	1.40	.28	1	1
45	1.70	.30	1 1/4	1 1/4
46	2.00	.38	1 1/2	1 1/2
47	2.40	.44	1 3/4	1 5/8
48	2.80	.52	2	2

CAD Bolts



Screw Heel Clamp



Goose Neck Clamp

Stiff, strong and convenient.

These clamps will save machines from standing idle while the operators hunt in the junk pile for a piece of scrap with which to clamp down a job. Such methods are old fashioned, expensive and unsafe.

Screw Heel Clamps

Goose Neck Clamps

No.	Length Inches	Width Inches	Thick- ness, in.	Slot Inches	Offset Inches	Wt. Lbs.	Price Each
74	4	1 3/8	3/4	11/16 x 15/16	3/16	1	\$.60
76	6	1 3/4	7/8	11/16 x 1 1/16	15/16	2	1.00
78	8	2 1/8	1 1/8	13/16 x 2 7/16	1 1/8	4 1/4	1.70

CAD Nuts



Double Finger Clamp



U-clamp

These clamps will save machines from standing idle while the operators hunt in the junk pile for a piece of scrap with which to clamp down a job. Such methods are old fashioned, expensive and unsafe.

For holding down work, dies, fixtures, etc., on planers, punch presses, milling machines, boring mills and drill presses. Stiff, strong.

Double Finger Clamps

U-clamps

No.	Length Inches	Width Inches	Thick- ness, In.	Slot Inches	Fingers Inches	Wt. Lbs.	Price Each
64	4	1 $\frac{3}{4}$	$\frac{3}{4}$	11 $\frac{1}{2}$ x 3 $\frac{1}{2}$	9 $\frac{1}{2}$ x 9 $\frac{1}{2}$		
66	6	2	$\frac{7}{8}$	11 $\frac{1}{2}$ x 5 $\frac{1}{2}$	11 $\frac{1}{2}$ x 11 $\frac{1}{2}$	2	\$6.60
68	8	2 $\frac{3}{8}$	1 $\frac{1}{8}$	11 $\frac{1}{2}$ x 7 $\frac{3}{8}$	13 $\frac{1}{2}$ x 13 $\frac{1}{2}$	4	1.70
110	10	2 $\frac{3}{4}$	1 $\frac{1}{4}$	15 $\frac{1}{2}$ x 9	15 $\frac{1}{2}$ x 15 $\frac{1}{2}$	6 $\frac{1}{2}$	2.50
112	12	3 $\frac{1}{4}$	1 $\frac{3}{4}$	11 $\frac{1}{2}$ x 11	11 $\frac{1}{2}$ x 11 $\frac{1}{2}$	11	3.70










for use. Double offset under the head. U. S. standard threads.

A standard machine table slot bolt. Will fit slot without machining. Will not break out machine table slots or turn in table. It is interchangeable and reads the head. U. S. standard

Each, without Nuts
Adopted January 1, 1937

Accepted January 1, 1937

Size, In.	1/8	1/4	3/8	1/2	5/8	3/4	7/8	1	*5/8	*3/4	1 1/4
1	\$.10	\$.10	\$.10	\$.10	\$.10	\$.10	\$.10	\$.10	\$.10	\$.10	\$.10
1 1/8	\$.10	\$.20	\$.20	\$.20	\$.20	\$.20	\$.20	\$.20	\$.20	\$.20	\$.20
1 1/4	\$.10	\$.20	\$.28	\$.28	\$.28	\$.28	\$.28	\$.28	\$.28	\$.28	\$.28
1 1/2	\$.10	\$.20	\$.35	\$.35	\$.35	\$.35	\$.35	\$.35	\$.35	\$.35	\$.35
1 3/4	\$.10	\$.20	\$.37	\$.37	\$.37	\$.37	\$.37	\$.37	\$.37	\$.37	\$.37
2	\$.10	\$.20	\$.29	\$.29	\$.29	\$.29	\$.29	\$.29	\$.29	\$.29	\$.29
2 1/8	\$.11	\$.21	\$.30	\$.30	\$.30	\$.30	\$.30	\$.30	\$.30	\$.30	\$.30
2 1/4	\$.11	\$.21	\$.30	\$.30	\$.30	\$.30	\$.30	\$.30	\$.30	\$.30	\$.30
2 1/2	\$.11	\$.21	\$.30	\$.30	\$.30	\$.30	\$.30	\$.30	\$.30	\$.30	\$.30
2 3/4	\$.12	\$.22	\$.31	\$.31	\$.31	\$.31	\$.31	\$.31	\$.31	\$.31	\$.31
3	\$.12	\$.22	\$.31	\$.31	\$.31	\$.31	\$.31	\$.31	\$.31	\$.31	\$.31
3 1/8	\$.13	\$.23	\$.32	\$.32	\$.32	\$.32	\$.32	\$.32	\$.32	\$.32	\$.32
3 1/4	\$.14	\$.24	\$.34	\$.34	\$.34	\$.34	\$.34	\$.34	\$.34	\$.34	\$.34
3 1/2	\$.15	\$.26	\$.35	\$.35	\$.35	\$.35	\$.35	\$.35	\$.35	\$.35	\$.35
4	\$.16	\$.27	\$.37	\$.37	\$.37	\$.37	\$.37	\$.37	\$.37	\$.37	\$.37
4 1/8	\$.17	\$.28	\$.38	\$.38	\$.38	\$.38	\$.38	\$.38	\$.38	\$.38	\$.38
4 1/4	\$.18	\$.28	\$.38	\$.38	\$.38	\$.38	\$.38	\$.38	\$.38	\$.38	\$.38
4 1/2	\$.18	\$.28	\$.38	\$.38	\$.38	\$.38	\$.38	\$.38	\$.38	\$.38	\$.38
5	\$.20	\$.30	\$.40	\$.40	\$.40	\$.40	\$.40	\$.40	\$.40	\$.40	\$.40
5 1/8	\$.22	\$.32	\$.43	\$.43	\$.43	\$.43	\$.43	\$.43	\$.43	\$.43	\$.43
5 1/4	\$.24	\$.35	\$.46	\$.46	\$.46	\$.46	\$.46	\$.46	\$.46	\$.46	\$.46
5 1/2	\$.26	\$.38	\$.48	\$.48	\$.48	\$.48	\$.48	\$.48	\$.48	\$.48	\$.48
6	\$.28	\$.40	\$.52	\$.52	\$.52	\$.52	\$.52	\$.52	\$.52	\$.52	\$.52
6 1/8	\$.30	\$.48	\$.58	\$.58	\$.58	\$.58	\$.58	\$.58	\$.58	\$.58	\$.58
6 1/4
6 1/2
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7 1/4
7 1/2
7 3/4
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30 1/2

LENGTH UNDER HEAD, INCHES

Furnished with CAD nuts and washers unless otherwise specified.

*Heavy duty—NMTB. Std. †T-6 planer.



Finished, casehardened, extra thick U.S. Std. threads,
gauged after hardening.

No.	3UN	4UN	5UN	6UN	7UN	8UN
Each.	\$.08	.10	.16	.22	.30	.40
Diam. Bolt. in.	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1
No. of Threads per In.	16	13	11	10	9	8
Thickness... in.	$\frac{7}{16}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	$1\frac{1}{8}$	$1\frac{1}{2}$
Across Flats in.	$1\frac{1}{16}$	$\frac{7}{8}$	$1\frac{1}{16}$	$1\frac{1}{4}$	$1\frac{3}{8}$	$1\frac{5}{8}$

CAD Finished Washers



Extra thick cold rolled steel, beveled on one side.

I.D. $\frac{1}{32}$ inch over size of bolt.

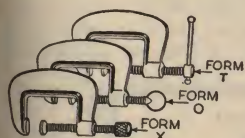
No.....	2W	2½W	3W	4W	5W	6W	7W	8W
Each.....	\$.01	.01	.05	.06	.07	.08	.10	.15
Diam. Bolts in.	¼	⅜	⅜	½	⅝	¾	⅞	1
O.D.....in.	⅝	1⅞	⅞	1	1¼	1½	1¾	2
Thickness in.	⅛	⅛	⅛	⅜	¼	¼	¼	¼

Pony Malleable C Clamps

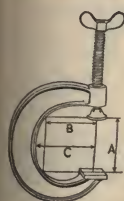
Used in industrial service in light assembly operations by machinists, tool-makers, pattern-makers, sheet-metal workers, model work, and for wood, and other materials in many crafts.

Used as household tools for holding quilting frames, curtain stretchers, ping-pong nets, jig-saw boards, portable devices to table tops, etc.

Frames are malleable iron, liberally proportioned, cadmium plated. Steel screws with full standard threads, closely fitted. Turned steel swivels, securely fastened to end of screw, revolve freely. Proof-test on No. 245 is 1400 pounds or more; on No. 246, 1600 pounds or more.



Three different forms of handles are designated by the letters T, O, X. A small extra charge may be made for handles other than regular stock when ordered in small quantities.



Depth of throat is measured from center line of screw to the inner edge of frame. In some designs depth of throat is greater at center of frame than near the ends to provide a working clearance between clamp frame and work, or for greater reach.

Packed one dozen per shelf box except No. 245 and No. 246 which are packed 1/2 dozen per shelf box.



Group D—Regular Throat

No.	Per Doz.	Max. Open. In.	Max. Throat Depth In.	Max. Reach In.	Screw Diam. In.	Wt. Per Doz. Lb.	HANDLE
228	\$2.00	3/4	5/8	5/8	No. 12	1 1/4	X ..
232	2.25	2	1	1	3/8	3	T X, 0
242	3.75	2 1/2	1 3/8	1 3/8	3/8	5 1/2	T X



Group E—Medium Throat

No.	Per Doz.	Max. Open. In.	Max. Throat Depth In.	Max. Reach In.	Screw Diam. In.	Wt. Per Doz. Lb.	HANDLE
231	2.00	1	1 1/8	1 1/8	1/4	2	T X
233	2.25	1 1/2	1 1/2	1 1/2	5/32	3	T X, 0
244	4.25	2 1/2	2 1/2	2 1/2	3/8	8	T X



Group F—Round Frame

No.	Per Doz.	Max. Open. In.	Max. Throat Depth In.	Max. Reach In.	Screw Diam. In.	Wt. Per Doz. Lb.	HANDLE
227	2.00	5/8	3/4	7/8	No. 12	1 1/4	X ...
230	2.75	1 1/4	1 1/8	1 3/8	5/32	4	X ...

Group G—Deep Throat

No.	Per Doz.	Max. Open. In.	Max. Throat Depth In.	Max. Reach In.	Screw Diam. In.	Wt. Per Doz. Lb.	HANDLE
236	2.75	1	3 1/2	3 1/2	1/4	3	X T
237	3.25	1 1/2	3 1/2	3 1/2	5/32	5	T X, 0
245	9.00	2 1/2	4 1/2	4 13/16	3/8	12	T X
246	15.00	2 1/2	6	6 3/16	3/8	27	T X



Group H—Square Frame

Flat Outside Edges

No.	Per Doz.	Max. Open. In.	Max. Throat Depth In.	Max. Reach In.	Screw Diam. In.	Wt. Per Doz. Lb.	HANDLE
251	4.00	1	1 1/2	1 1/2	1/4	2 1/2	T X
252	5.00	1 1/2	2	2	5/32	4	T X, 0

Williams' Deep Throat Drop-Forged C Clamps For Body-Builders and Other Light Service



Drop-forged from specially selected steel; heat-treated. Screws are drop-forged in one piece and provide a firm, solid lever, recessed and rounded for easy hand-grip.

Swivels are provided on all sizes.

No.	Clamp Complete Each	Screw & Swivel Each	CAP., In. Max.	Throat Depth In. Min.	Length In. Max.	EXTREME LENGTH In. Max.	DIMEN. Width In. Max.	SIZE Diam. In. Max.	Length In. Max.	Wt. Lb.
402	\$1.50	\$.60	2	0	2	4 7/8	3 3/4	1 1/2	4 7/8	1 1/8
403	1.80	.70	3	0	2 3/8	6 1/8	4 7/8	1 1/2	6 1/8	1 1/2
404	2.20	.80	4	0	2 3/4	7 5/8	4 3/4	5/8	8 1/2	2 1/4
406	3.00	1.00	6	0	3 5/8	10 1/4	6	5/8	10 1/2	3 3/4
408	4.00	1.20	8	2	4 1/2	12 3/4	7	3/4	11	5 1/2
410	5.00	1.50	10	3	5 3/8	15 1/4	8 1/8	3/4	12	8 1/4
412	6.50	2.00	12	4	5 3/4	18	9 3/8	7/8	13 1/4	12 1/2

Williams' Vulcan Drop Forged Heavy Service C Clamps

Drop forged from a strong, tough grade of carefully selected steel and heat treated. The screws, threaded U.S.S., are made of a special grade of steel, and are hardened and tempered.



No.	Clamp Comp. Each	Ex. Std. Screws Each	CAPACITY, In. Max.	Std. Screw Min. with Std. Screw	Diam. Std. In.
0	\$1.00	\$.20	3/4	0	5/16
1	1.50	.24	1 1/4	0	3/8
1 1/2	2.50	.28	1 3/4	1 1/16	1 1/2
2	3.50	.40	2 1/4	7/8	5/8
3	5.00	.56	3 1/4	1 5/16	3/4
4	6.50	.76	4 1/2	2	7/8
5	8.00	1.00	5 1/2	2 1/2	7/8
6	10.00	1.30	6 1/2	3 1/16	1
8	14.00	1.70	8 1/2	4 1/4	1 1/8
10	19.00	1.70	10 1/2	6 3/8	1 1/8
12	25.00	2.40	12 1/2	7 5/8	1 1/4

No. 1 Carriage Clamps



Malleable iron frame, cold drawn steel screw with deep coarse threads.

Regularly supplied with ball and socket swivel but plain riveted-on swivel is optional.

Jorgensen

No.	Per Dozen	Opens In. Max.	Depth Throat In. Max.
102	\$9.00	2 1/2	1 3/4
103	10.00	3	1 7/8
104	12.00	4	2 1/8
105	15.00	5	2 1/2
106	18.00	6	2 3/4

Mark

No.	Per Dozen	Opens In. Max.	Depth Throat In. Max.
107	\$22.00	7	3 1/4
108	28.00	8	3 3/4
110	36.00	10	4 1/4
112	46.00	12	4 3/4
112X	50.00	12	6

Jorgensen Body Clamps

Extra heavy malleable iron frame. Has V-notch in foot of clamp. Cold drawn steel screw with deep, coarse threads. Ball and socket swivel is regular; plain riveted swivel when ordered.



No.	Each	Maximum Opening In. Max.	Throat Depth In. Max.	Extreme Depth In. Max.	Screw Diam. In. Max.	Load Limit Pounds	Wt. Lb. per Dozen
122	\$1.50	2	2	2 3/8	9/16	2400	18
123	1.80	3	2 1/4	2 13/16	9/16	3200	24
124	2.20	4	2 1/2	3 1/8	5/8	3300	30
125	2.60	5	3	3 5/8	5/8	3400	42
126	3.00	6	3 3/16	3 13/16	5/8	3600	48
128	4.00	8	3 3/4	4 1/2	3/4	4000	66

Jorgensen Shielded Welders' Clamps



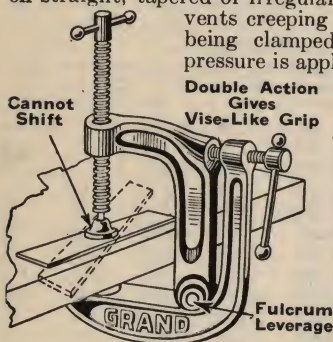
Shielded screw provides protection to screw threads.

Has deep throat. Extra heavy malleable iron frame. One-piece malleable iron handle. Cold drawn steel screw, $\frac{1}{8}$ -inch diameter, with deep, coarse, smooth threads. Turned steel swivel, $\frac{1}{2}$ -inch diameter, with brass thrust washers.

No.....	824S	826S	828S
Each.....	\$4.50	4.75	5.25
Max. Opening in.	4½	6¼	8
Throat Depth in.	3¾	4¼	4¾
Extreme Depth			
.....in.	4½	5½	5¼
Load Limit...lb.	6000	5500	4500
Weight.....lb.	8	8¾	9¾

Double Action Clamps

For machinists, body rebuilders, welders, garage mechanics, carpenters, boat builders, schools, etc. Can be used on straight, tapered or irregular surfaces. Vise action prevents creeping of screw or shifting of parts being clamped. Final vertical clamping pressure is applied with short vise screw.



Made of malleable iron. Finished in polished cadmium plate with copper-plated screws to reduce sticking of welding spatter. Open....in. 3 4 6

Each.....\$3.50 3.75 3.95

Depth Ctr.in. 2½ 2¾ 3

Wt.....lb. 3¾ 4½ 5¾

Extra Slip-On Jaws for Clamping Pipes, Rods, Etc. per pair \$7.5

Style J Jorgensen Peerless Adjustable Steel Spindle Handscrews

For glueing and assembly of woodwork, furniture, cabinet work, musical instruments, boats, airplanes, body work, patterns, stair work, etc. The hard maple jaws do not mar the work and are less likely to slip than steel jaws. Hence they are also most desirable for

holding steel sheets, bars, odd shapes, templates, bakelite, linoleum, fabrics, insulated wire, fine veneers, etc. They have deep throat and afford either a broad area of evenly distributed pressure, or concentration at one point. Leverage of screw action gives most secure grip.

Finest hard maple straight grain seasoned and oiled jaws. Cold drawn screws and nuts, faster in operation and

more durable than wood screws. Angle of jaws adjustable to fit the work or over-lap one jaw beyond the other. Threads will not strip. Glue will not adhere to the spindles. Does not come apart. Not affected by changes in climatic conditions.

No.	Per Dozen	Length Jaws In.	Open Btwn. In.	Wt. per Doz. Lbs.
5/0	\$15.00	4	2	5
4/0	16.20	5	2½	6
3/0	18.00	6	3	12½
2/0	19.20	7	3½	15½
0	21.00	8	4½	23
1	24.00	10	6	30

No.	Per Dozen	Length Jaws In.	Open Btwn. In.	Wt. per Doz. Lbs.
2	\$27.00	12	8½	50
3	30.00	14	10	58
4	36.00	16	12	86
5	42.00	18	14	100
6	48.00	20	14	112
7	60.00	24	17	130

No. 56 Pony Clamp Fixtures



Malleable iron castings; hardened steel discs; cold drawn steel screw, $\frac{5}{8}$ -inch diameter, with smooth, deep threads. Screw is 2½ inches from edge of the bar.

Multiple disc clutch locks automatically at any position; holds securely; is easily released by finger grips. The clutch can be readily reversed or replaced.

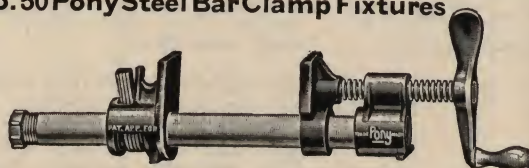
Use $\frac{3}{4}$ -inch pipe as bar on which to mount these fixtures. Extra heavy pipe is recommended.

Packed 1 set in a box; 12 sets in a carton.

Shipping weight, per carton, 24 pounds.

No. 56, Fixtures Only, without Pipe...per dozen sets \$30.00

No. 50 Pony Steel Bar Clamp Fixtures



For general utility service, glueing, assembling, etc.

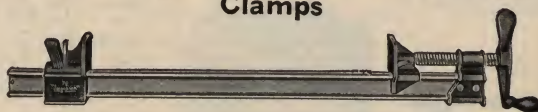
Designed to make ordinary $\frac{3}{4}$ -inch steel pipe serve as the bar. Adjusted by multiple disc clutch which grips bar automatically at any point. Foot is never loose on bar and is released by finger grips. Malleable iron castings.

Clamping faces, 1¾ inches square. Screw of cold-drawn steel, $\frac{5}{8}$ inch in diameter. Hardened steel clutch discs. Has one-piece handle.

Fixtures only packed 1 set per shelf box, 12 sets per carton. Shipping weight per dozen, 31 pounds.

No. 50 Fixtures Only, without Pipe...per doz. sets \$30.00

Style 70 Jorgensen High Speed Steel Bar Clamps



Steel I bar of extra carbon and manganese content, size $1\frac{1}{2} \times \frac{5}{8} \times \frac{1}{8}$ -inch plus, without notches or deformity. Multiple disc clutch grips automatically at any point. Secure hold and easy release. Malleable castings with orange enamel finish. Screws of cold drawn steel, $\frac{5}{8}$ inch diameter with deep smooth threads and hardened thrust bearing. Jaws, 2 inches high, $1\frac{3}{4}$ inches wide.

Solid one-piece handle recommended; plain crank with loose wood grip optional.

No.....	7024	7030	7036	7048	7060	7072	7084
Per Dozen....	\$45.60	46.80	48.00	54.00	60.00	66.00	72.00
Max. Opening ft.	2	2½	3	4	5	6	7
Wt. per Doz. lb.	86	95	103	119	136	153	170

No. 640 Improved I-Bar Clamps



Bar, high-carbon manganese steel, $1\frac{1}{2} \times \frac{5}{8} \times \frac{1}{8}$ inches, built to stand greatest strain; wide smooth flange. Notches formed in web, spaced $\frac{1}{2}$ inch apart. Slide, malleable iron, cannot slip or bind; clamping surfaces $2 \times 1\frac{1}{8}$ inches. Tip has case-hardened thrust bearing for end of screw. Screw is steel with deep-cut Acme thread and long bearing. Wood grip handle; all-metal T handle optional.

Opening.....feet	2	2½	3	4	5	6	7
Per Pair (2 Clamps)	\$7.60	7.80	8.00	9.00	10.00	11.00	13.00
Wt. per Pair....lbs.	13½	14¼	16	18½	21	23½	26

Hargrave Quick Clamps Movable Frame and Stationary Foot



For use in cabinet work, pattern making, boat and ship building, automobile body, airplane and parlor frame work.

Screw is steel and has deep cut Acme thread, with long bearing.

No. 498 has steel bar, $1\frac{1}{2} \times \frac{1}{4}$ inch; 2 inches deep.
No. 500 has steel bar, $1\frac{1}{2} \times \frac{1}{4}$ inches; $2\frac{1}{2}$ inches deep.
No. 514 has steel bar, $1\frac{3}{4} \times \frac{3}{8}$ inches; 3 inches deep.

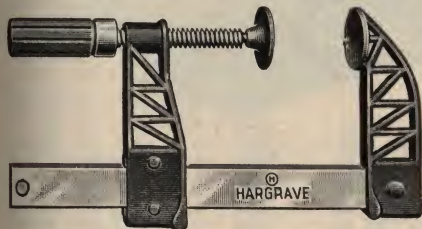
Opens Inches	PER DOZEN			Opens Inches	PER DOZEN		
	No. 498	No. 500	No. 514		No. 498	No. 500	No. 514
4	\$24.00	\$30.00	.....	24	\$33.00	\$39.00	\$74.00
6	24.00	30.00	\$56.00	30	36.00	42.00	.....
8	25.00	31.00	58.00	36	.....	45.00	86.00
12	27.00	33.00	62.00	48	.....	.....	98.00
18	30.00	36.00	68.00	60	.....	.....	110.00

No. 506 Hargrave Quick Clamps Medium Weight

Bar and screw are of steel; wood handle on screw. Other parts are of malleable iron. Can be instantly applied or removed from work.

Movable frame, stationary foot.

Bar, $1\frac{1}{2} \times \frac{1}{4}$ inches. Depth, $3\frac{1}{2}$ inches.



Open. In.	Per Dozen	Approx. Wt., Lb. per Doz.
6	\$26.00	34
8	27.00	$36\frac{1}{4}$
12	29.00	$40\frac{3}{4}$
18	32.00	$46\frac{1}{2}$
24	35.00	$52\frac{1}{4}$
30	38.00	58

Hargrave Large Quick Clamps Movable Frame and Stationary Foot



Can be instantly applied or removed from the work; handier to operate, take up less room, and save a great amount of time over ordinary clamps. Especially useful in boat building, pattern making, and aeroplane work.

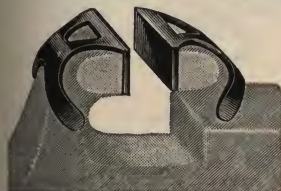
Rigid at any opening and will not slip or release when jarred. The bar is of

high carbon manganese steel and the frame and foot are of the best grade of malleable. The gripping blocks are hardened tool steel. Construction of frame and foot enables these clamps to stand tremendous clamping strain.

No. 508 has steel bar $1\frac{3}{4} \times \frac{3}{8}$ inches; 6 inches deep from center of screw to bar. No. 510 has steel bar $2 \times \frac{1}{2}$ inches; 9 inches deep from center of screw to bar.

Opens Inches	No. 508		No. 510	
	Per Doz.	Wt., Lb. per Doz.	Per Dozen	Wt., Lb. per Dozen
6	\$62.00	90	\$100.00	180
8	64.00	95	104.00	187
12	68.00	105	112.00	201
18	74.00	119	124.00	222
24	80.00	133	136.00	243

Hollands Soft Metal Vise Jaws



Width Jaws, In.	Lead per Pr.	Brass or Copper per Pr.
$3\frac{1}{2}$	\$1.40	\$1.80
4	1.50	2.10
$4\frac{1}{2}$	2.00	2.50
5	2.50	3.10
$5\frac{1}{2}$	3.50	4.00
6	4.00	5.00
7	5.00	6.00

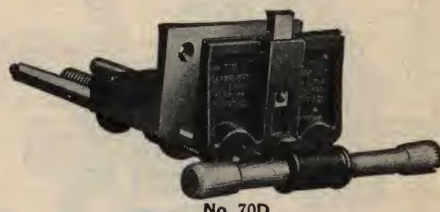
Abernathy Roller Nut Woodworkers' Vises

For manual training school, home and shop equipments.

Rapid acting or continuous screw adjustment. The Roller Nut Vise has no springs whatever, but depends upon the weight of the roller for its action. The roller is a practically balanced cylinder which rolls in whichever direction the screw is turned.

Jaws, 7 inches long; 4 inches deep; opening, 9 inches.
Weight, 26 pounds.

Price, No. 70 each \$9.50
" 70D, with Adjustable Dog " 11.00



Champion Woodworker's Vises

This vise can be carried in the carpenter's kit. It will fasten to anything from $\frac{1}{8}$ to $2\frac{1}{4}$ inches thick.

Has screw holes in each jaw for fastening in wood jaws if desired. Opens to 3 inches.

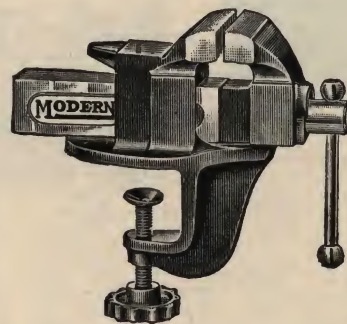
The size of the jaw is 6 inches in length.

No. 555 weighs less than 5 pounds; No. 655 with aluminum jaws weighs only $2\frac{3}{4}$ pounds.

Price, No. 555, with Iron Jaws each \$4.00
Price, No. 655, with Aluminum Jaws each 6.50



Modern Clamp Vises



This vise is sturdy, well designed, accurately machined and fitted.

The top, side and bottom of slide are accurately milled.

The square opening in body of vise is accurately machined to size.

Heavy machine-cut guide screw operates in an extra large malleable guide nut.

The walls of the vise are especially reinforced at all points of strain.

Polished jaws and anvil are varnished to prevent rust.

Designed with both heavy wheel grip clamp screw and bolt holes for attaching to bench. Jaws are oversize.

Finished in red baked-on heavy gloss enamel.

No.	742W	742 $\frac{1}{2}$ W	743W
Each.	\$1.84	2.54	3.68
Size of Jaw. inches	2	$2\frac{1}{2}$	3
Spread. inches	$2\frac{1}{8}$	$2\frac{1}{4}$	3
Shipping Weight. pounds	$4\frac{1}{4}$	$6\frac{1}{2}$	9

Majestic General Purpose Vises



Swivel Base

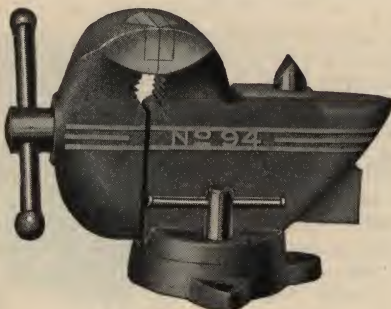
For shop, garage and home use.

Deeply milled corrugated replaceable jaw faces.

Pipe jaws, removable, fitted to hold pipe from 1/4 inch and up.

Cold drawn steel screw.		Forged ball ends; sliding handle.				
No.		30	35	40	45	05
Each		\$3.30	4.50	7.50	9.00	11.00
Jaw Width	in.	3	3½	4	4½	5
Jaw Opens	in.	3½	4	5	5½	6½
Weight	lb.	14	17	28	36	42

Parker Utility Vises

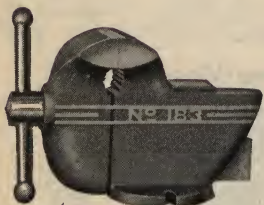


No. 94

A quality line of vises, streamlined in appearance, with proper weight distribution and sturdy construction.

Anvil with horn, and pipe jaws are part of the casting. Steel screw and handle.

Nos. 83, 83 1/2 and 183 have solid smooth jaws; Nos. 93 1/2 and 94 have replaceable steel jaws.



No. 183

Swivel Base

No.	Each	Jaw Width Inches	Jaw Opening Inches	Pipe Capacity Inches	No. in Case	Weight Pounds Each
94	\$7.50	4	4 1/2	0 to 2	3	28
93 1/2	4.50	3 1/2	4	0 to 1 1/2	6	17
83 1/2	3.00	3 1/2	3 1/2	0 to 1 1/2	6	13
83	2.50	3	3	0 to 1 1/2	6	11

Stationary Base

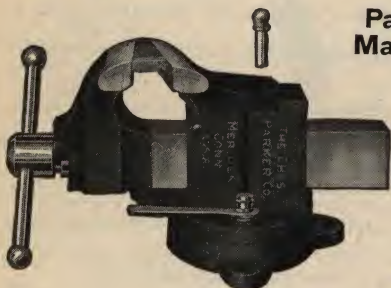
No.	Each	Jaw Width Inches	Jaw Opening Inches	Pipe Capacity Inches	No. in Case	Weight Pounds Each
183	\$2.00	3	3	0 to 1 1/4	6	9 1/2

Parker's Victor Machinists' Vises

Swivel Jaw Swivel Base

For use in shops where tapered pieces of work are to be held.

By removing the pin, the top of the back jaw can be swiveled to hold odd shaped pieces for filing, etc.



No.	Each	Jaw In.	Vise Opens In.	Wt. Lb.	No.	Each	Jaw In.	Vise Opens In.	Wt. Lb.
383	\$17.50	3	3 1/2	33	385	\$35.00	5	7	85
383 1/2	20.00	3 1/2	5	51	385 1/2	44.00	5 1/2	9	123
384	24.00	4	5	52	386	60.00	6	9 1/2	174
384 1/2	28.00	4 1/2	6	71	387	75.00	7	11	220

Athol Machinists' Vises

Stationary Base and Jaw



Made of semi-steel castings. The jaw facings are made of tool steel, welded to the vises, properly tempered and mill checked to insure firm grip.

No.	Each	Jaws, In. Width Open	Wt. Lb.	No.	Each	Jaws, In. Width Open	Wt. Lb.
612 1/2	\$9.00	2 1/2 3 1/2	13	*615	\$20.00	5 8	81
613	10.00	3 4	22	*615 1/2	30.00	5 1/2 9	106
*613 1/2	11.25	3 1/2 4 3/4	30	*616	39.00	6 9 3/4	148
*614	12.75	4 6	47	*617	55.00	7 12 1/4	202
*614 1/2	15.50	4 1/2 7	62	*618	75.00	8 12 3/4	257

*Can be furnished with removable steels.

Athol Machinists' Vises

Swivel Base Stationary Jaw



Jaw steels are a special tool steel and are welded to face of jaws in casting.

No.	Jaws, In. Width Open	Wt. Lbs.	Price Each	No.	Jaws, In. Width Open	Wt. Lbs.	Price Each
624	4 6	57	\$17.00	624 1/2	4 1/2 7	73	20.00
625	5 8	95	30.00	625 1/2	5 1/2 9	123	38.00
626	6 9 3/4	178	52.00	627	7 12 1/4	241	70.00
628	8 12 3/4	300	98.00				

Parker's Superior Machinists' Vises

Stationary Jaw—Stationary Base



For use in large industrial plants and railroad shops. Solid steel bar slide strengthener, with outside saddle screw. Interchangeable steel jaws. Drop forged screw and one piece handle.

No.	Each	Size Jaw In.	Vise Opens In.	Wt. Lbs.	No.	Each	Size Jaw In.	Vise Opens In.	Wt. Lbs.
803	\$12.50	3	4	33	805 1/2	\$37.50	5 1/2	9	129
803 1/2	14.00	3 1/2	6	52	806	48.75	6	9 1/2	159
804	15.75	4	7	72	807	55.00	7	10 1/2	210
804 1/2	19.25	4 1/2	8	90	808	93.75	8	13 3/4	297
805	25.00	5	8 1/2	110					

Parker's Superior Machinists' Vises

Stationary Jaw—Swivel Base

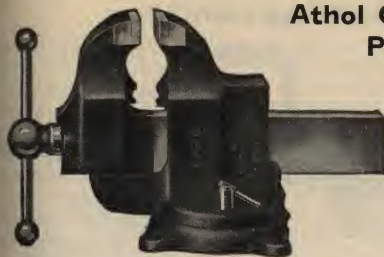


For use in railroad shops and industrial plants.

Has interchangeable steel jaws; drop forged screw; 1 piece handle; and solid steel bar slide strengthener, with outside saddle screw.

No.	Each	Size Jaw In.	Vise Opens In.	Wt. Lbs.	No.	Each	Size Jaw In.	Vise Opens In.	Wt. Lbs.
823	\$16.25	3	4	39	825	\$37.50	5	8 1/2	130
823 1/2	18.75	3 1/2	6	61	825 1/2	47.50	5 1/2	9	151
824	21.25	4	7	85	826	65.00	6	9 1/2	187
824 1/2	25.00	4 1/2	8	103	827	70.00	7	10 1/2	228

Athol Combination Pipe Vises

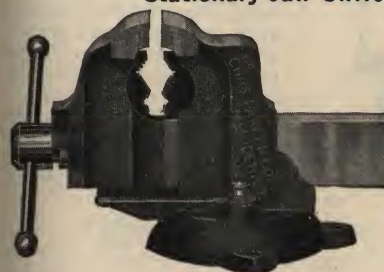


Stationary Jaw Swivel Base

Holds flat work without removing pipe grips. Swivel base easily locked at any angle.

No.	Each	Width Jaw, In.	Jaws Open, In.	Size Pipe, In.	Approx. Wt., Lbs.
323 1/2 X	\$17.50	3 1/2	4 1/4	1/8 to 2 1/2	44
324	19.75	4	5 3/4	1/8 to 3	60
324 1/2 X	24.00	4 1/2	6 1/4	1/8 to 3 1/2	81
325 X	38.00	5	7 5/8	1/8 to 4 1/2	105
325 1/2 X	46.00	5 1/2	8 5/8	1/4 to 5	140
326 X	60.00	6	8 5/8	1/4 to 6	212

Parker's Combination Pipe Vises Stationary Jaw Swivel Base

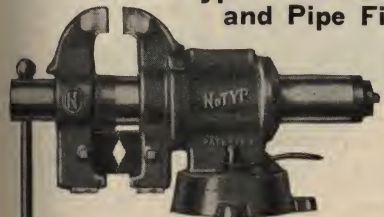


Designed for the plumbing and railway fields. High grade steel pipe jaws are milled and tempered in oil; do not project beyond the face of the steel jaws.

Has swivel base with 360° gripping power.

No.	Each	Size Jaw, In.	Vise Opens, In.	Holds Pipe Up to, In.	Weight Pounds
433 1/2	\$17.50	3 1/2	3	2	47
434 1/2	24.00	4 1/2	5	3	75
435	38.00	5	6	4	116
436	60.00	6	9 1/2	6	185

Class 600 Nutyp Combination Machinists' and Pipe Fitters' Vises



A practical vise which provides a means for holding work of any form.

Parts are machined and all repairs are interchangeable.

Vise No.	Each	Width Jaws, in.	Jaws Open, in.	Disc Capacity, in.	Weight, lbs.
*601 3/4	\$6.00	1 3/4	2 1/2	0-1 1/2	5
602 1/2	14.00	2 1/2	3 1/2	0-1 1/2	3
603 1/2	20.00	3 1/2	4 1/2	1/4-3 1/2	1/2-6
604 1/2	30.00	4 1/2	5 1/2	1/4-4 1/2	1/2-6
605	40.00	5	6 1/4	1/4-5 1/2	1/2-7 1/2

*Nickel-plated finish, extra.

Ontario Combination Vises

Smith Pattern



The Ontario Combination vise has all the qualities of design, strength and material of the best vises on the market.

Vise No.	Each	Holds Pipe, In.	Jaws, INCHES Width	Open	Weight Pounds
63 1/2	\$16.00	0-2	3 1/2	4 3/4	50
64	22.00	0-3	4	6 1/2	70
65	32.00	0-4	5	8	100

No. 990 Yankee General Utility Vises With Swivel Jaw



For use with drillpress, or machining operations. Can be fastened to work bench with C clamp or screws, for which holes are provided.

Holds irregular shapes, tapered pieces and round stock.

By means of V-groove in front jaw, round work is held rigid and parallel. Tapered pieces are securely held by removable swivel jaw which is made of steel and case hardened.

Base length, 5 3/4 inch. The jaws open 3 inches without swivel, and 2 5/8 inches with swivel inserted. Depth of jaws, 1 3/8 inches; width, 2 3/8 inches. Length overall, 6 3/4 inches; and height overall, 2 inches.

Net weight, 4 1/8 pounds.

No. 990.....each \$4.70

Yankee Vises



Can be used on bench, or on a bench drill or other small machines.

The vise is accurately machined all over so it can be used on either side or end as well as on base in drill press, etc. A hardened steel block with V-shaped grooves is provided for holding round or irregular shaped work.

No.	Each	Base, IN.—Length	Width	Jaws, INCHES—Opening	Depth	Width	Ht. Over All In.	Lgth. Over All In.	Net Wt. Lb.
991	\$4.20	3 5/8	1 1/2	1 1/2	7/8	1 1/2	1 1/2	4 5/8	1 3/8
992	5.10	4 7/8	2	1 15/16	1 1/4	2	2 1/16	6	3 3/8
993	9.40	7 1/4	2 3/4	3 1/8	1 7/8	2 3/4	3	8 3/4	9 5/16
994	18.70	10 1/2	4	4	2 1/8	4	4 1/8	12 1/4	28

Yankee Swivel Base Vises



Can be used on bench, or on a bench drill or other small machines. Detached from base by loosening one screw. Can be set on either side or end as well as on bottom in drill press, etc. A hardened steel block with V-shaped grooves is provided for holding round or irregular work.

No.	Each	Diam. Swivel Base In.	Jaws, INCHES—Opening	Depth	Width	Ht. Over All In.	Lgth. Over All In.	Net Wt. Lbs.
1991	\$5.60	2 1/2	1 1/2	7/8	1 1/2	3 1/8	4 5/8	2 1/2
1992	7.60	3 1/4	1 15/16	1 1/4	2	4 1/8	6	5 1/2
1993	12.70	4 1/2	3 3/8	1 7/8	2 3/4	6 3/4	8 3/4	13 1/2
1994	26.20	6 1/2	4	2 1/8	4	7 5/8	12 1/4	41

Yankee Vise Clamps



This clamp holds work rigidly for drilling and other machining operations, hence easier and more accurate results.

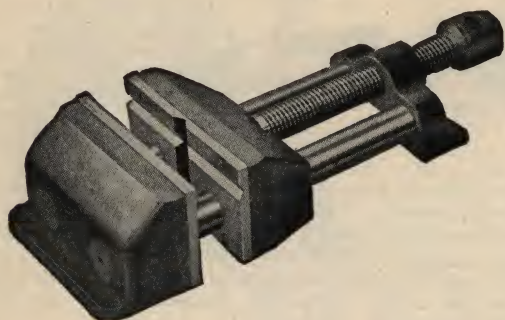
Work can be kept on face plate, but shifted to any handy position for tapping, filing, etc.

Made in two sizes: No. 2992 for use with Nos. 992 or 1992, and No. 2993 for Nos. 993 or 1993 Yankee Vises.

Vise clamps are slotted for 3/8-inch machine bolt.

No.	Each	2992	2993
Length.....in.	\$2.00	2.40	10 1/2
Width.....in.	9 3/4	10 1/2	2 1/16
Ht. without Bolt and Wing-Nut.....in.	2	2 1/16	1 1/4

Sheldon Drill Press Vises



The Sheldon Drill Press Vise has been designed to meet the demand for a light weight but strong vise for general purpose work.

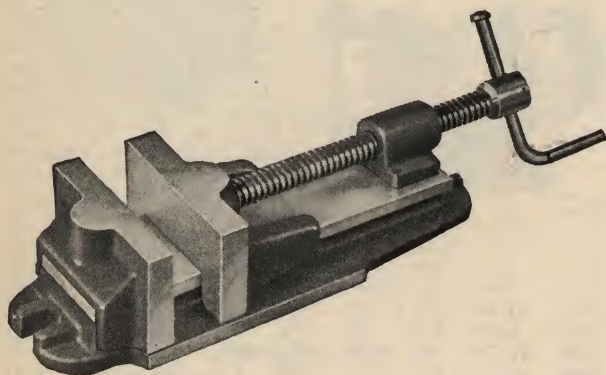
Stationary and movable jaws are box section semi-steel castings, affording the greatest possible strength with exceptionally light weight. They are faced with steel plates, the plate on the movable jaw being furnished with V grooves for holding round stock either in a vertical or a horizontal position.

Guide bars are hardened and ground. Screw is large diameter with accurately cut acme thread. Thrust is taken on a hardened and ground steel washer.

All parts are machined in jigs and are interchangeable.

No.	D4	D6	D9
Each	\$14.50	22.00	29.00
Width of Jaws	4½ inches	6½	9
Depth of Jaws over Guide Bars	1⅝ inches	1¾	2½
Full Depth of Jaws	3 inches	3½	4½
Jaws Open	4 inches	6	9
Weight	15 pounds	35	70

Sheldon Gem Drill Press Vises



The Sheldon Gem Drill Press Vise is made in two sizes with jaws 4 and 5 inches wide, to provide an accurate, rugged vise at a low price.

The jaw ends are milled square with the base so the vise can be placed on either side when desired.

Large diameter accurately cut thread screw is used.

The new design adjustable crank handle is convenient and rapid. The Gem Vise can be used for making simple drill jigs by placing locating stops on the stationary jaw and a plate for drill bushings on the bosses provided on top of jaws.

No.	G4	G5
Each	\$9.00	12.00
Width of Jaws	4 inches	5
Depth of Jaws over Plate	1½ inches	2
Full Depth of Jaws	2½ inches	3
Jaws Open	5 inches	6
Weight	15 pounds	25

Brown & Sharpe Plain Vises



Tool steel jaws, hardened and ground, renewable. Body has two holes from top to bottom, one at fixed jaw end and one in central part, so that vise can be clamped or held on a platen or fixture.

No.	Each	Width Jaws, In.	Depth Jaws, In.	Jaws Open, In.	Ship. Wt., Lb.
*1P	\$31.50	4½	1⅞	2	17
2P	38.50	5½	1¾	2¾	27
3P	44.50	6½	1⅞	3⅝	50
4P	67.50	7½	2	4½	90

Brown & Sharpe Flanged Vises



Made with flanges for clamping to table of milling machines, etc. Jaws are tool steel, hardened and ground, and are renewable. Flanges return coolant to table channels.

Furnished with bolts, nuts and washers.

No.	Each	Width Jaws, In.	Depth Jaws, In.	Jaws Open, In.	Ship. Wt., Lb.
*21F	\$32.50	4½	1⅞	2	26
22F	44.50	5½	1¾	2¾	42
23F	56.50	6½	1⅞	3⅝	62
24F	83.50	7½	2	4½	113
25F	119.00	8½	2½	7	195

Brown & Sharpe Swivel Vises



Exceptionally rigid and convenient for angular milling, etc. Base is so graduated in degrees, as to allow work to be set at any angle to table ways.

Firmly clamped to base. Vise centers on hardened stud. Jaws are tool steel, hardened and ground and are renewable. Vises furnished with reversible

tongues for either 1⅞ or 1⅝-inch slots, and can be used on any table fitted with corresponding T slots. Furnished with tongues to fit either ⅝ or ¾-inch slots, when specified; bolts, nuts and washers furnished.

No.	Each	Width Jaws, In.	Depth Jaws, In.	Jaws Open, In.	Height In.	Ship. Wt., Lb.
22S	\$59.50	5½	1¼	2¾	4⅞	62
23S	73.00	6½	1⅞	3⅝	5⅞	106
24S	103.00	7½	2	4½	7⅞	165

Brown & Sharpe Toolmakers' Universal Vises



Double base. Lower part has reversible tongue for either 1⅞ or 1⅝-inch slots. Has 2 sets of bolt slots permitting vise to be moved back when set in vertical plane. Upper part is hinged knee. Lower part of knee is graduated and can be set at any angle in a horizontal plane. Upper part is hinged

to the lower part and can be set at any angle to 90° in a vertical plane and clamped rigidly in position. Upper surface graduated to degrees. Hinge bolt has hardened steel dial face graduated to 90 degrees. Vise proper swivels on upper part of hinged knee and can be set at any angle to axis of bolt forming hinges. Renewable jaws. Furnished with tongues to fit either ⅝ or ¾-inch slots when specified; bolts, nuts and washers.

No.	Each	Width Jaws, In.	Depth Jaws, In.	Jaws Open, In.	Ship. Wt., Lb.
2T	\$121.00	5½	1¼	2¾	80
3T	157.50	6½	1⅞	3⅝	160

*Movement actuated by means of a screw turning directly into the movable jaw.

Palmgren Angle Vises

A drill press, milling machine, grinder and bench vise all in one. For general shop use, production or tool work.

Permits setting up angle work accurately and quickly. Can also be used like an ordinary vise when locked to horizontal position. Accurately graduated for angle work. By raising the vise to the desired angle and locking adjustable support by tightening screws, it is ready for use. All parts accurately machined. Base, body and sliding jaw of semi-steel casting. Adjusting screw has fine pitch thread and long bearing in visebody.

No. X0 has hardened steel jaws. No. 0 grooved vertically and horizontally for holding round pieces. No. 00 has hardened and ground steel jaws. No. 000 has hardened and ground steel jaws grooved for holding round pieces.

Can be furnished with either Model B Bench Swivel Base or Model M Machine Swivel Base. Machine base is graduated full 360° and furnished with 5/8-inch hardened blocks to fit slots in machine table.

No.	X0	0	00	000
Vise Only.....	\$4.95	\$6.95	\$7.45	\$7.95
With Model B Base..... each	5.95	7.95	8.45	8.95
With Model M Base..... each		10.25	10.75	11.25
Width Jaws..... inches	1½	2½	2½	2½
Depth Jaws..... inches	1	1½	1½	1½
Weight Vise..... pounds	4½	9½	9½	9½

Palmgren Heavy Duty Angle Vises

For milling, drilling, grinding and for checking and laying out work.



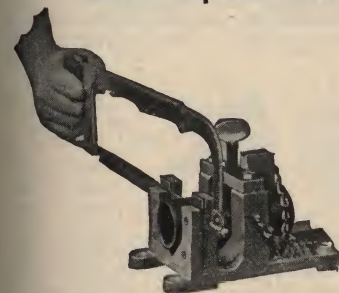
Accurately graduated in degrees; quickly adjusted to any angle; stays locked under most severe service. Jaws of high grade tool steel, hardened and ground. Hinge pin and screws are hardened. Extra heavy acme thread adjusting screw with renewable screw bush-

ing. Can be used as an ordinary vise when lowered to horizontal position.

Can be furnished with swivel base.

No.	2	3	4
Vise Only..... each	\$90.00	\$150.00	\$190.00
Vise with Swivel Base..... each	115.00	185.00	235.00
Width Jaws..... inches	4	6	8
Opening Jaws..... inches	4	6	8
Depth Jaws..... inches	1½	1¾	2½
Weight of Vise..... pounds	34	95	145
Wt. of Vise with Swivel Base... lb.	46	123	188

Beaver Square-End Sawing Vises



No. 2

This tool is a combination vise and saw guide for cutting square ends on thin wall brass and copper tubing.

Will not mar nor crush tubing. Made with renewable steel inserts.

For use with hack saw; 32-point blades recommended.

No. 2 is made of aluminum; No. 4 of malleable iron.

No.	2	4
Each.....	\$6.50	15.00
For Tubing..... in.	½ to 2	1½ to 4
Shipping Weight..... lb.	5	25

Armstrong Bros. Standard Pipe Vises

An automatic locking vise which combines convenient weight with strength and quick action.

Frame and base made of certified malleable iron. Jaws of tool steel, carefully milled, hardened, tempered and tested. Cadmium finish.

No.	Each	Extra Jaws per Set of 3	Capacity Pipe Inches	Wt. Lb.
7000	\$2.50	\$1.20	1/8-1¼	3
700	3.60	1.40	1/8-1½	5
*70	4.25	1.75	1/8-2	7½
*71	5.00	1.75	1/8-2½	10
72	7.50	2.50	1/8-3½	16
73	11.00	3.50	1/8-4½	25
74	23.50	6.00	1/8-6	49
75	47.50	8.55	1-8	81

*Furnished with full length jaws.

Armstrong Bros. Heavy Duty Pipe Vises

Cadmium Finish

This vise is designed for use under conditions which require exceptional strength and stiffness.

Frame and base are made of certified malleable iron; screw and handle are steel.

Jaws are tool steel with milled teeth, and are heat treated, oil tempered and tested.

No.	21	22	23	24
Each.....	\$8.00	14.00	20.00	35.00
Extra Jaws per Set of 3.....	\$1.75	2.50	3.50	8.00
Holds Pipe..... in.	1/8-2½	1/8-3½	1/4-5	1/2-7
Weight..... lb.	16	29	42	76

Toledo Open-Side Pipe Vises

Excellent for brass or copper pipe and for fitting make-up work. No need of unlatching and tipping back a yoke for long lengths of pipe. Operator simply slips pipe into open side and tightens down jaws.



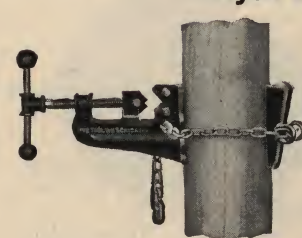
Full overlapping upper and lower jaws. Jaw construction permits working close to face of vise; jaws are easily replaced. Malleable iron frame; long, oversize handles.

Packed in individual cartons.

No.	Each	Lgth. Jaws In.	Cap. In.	Ship. Wt. Lb.
00	\$2.85	2¼	1/8-1½ Incl.	6¾
0	3.60	2½	1/8-2½ Incl.	12
3	8.40	3¼	1/8-4½ Incl.	27

Bench Clamp for No. 00 Vise; Ship. Wt. 4 Lb. each \$1.20

Nye Post Vises



Can be used as a bench vise or attached to a post or tree. Takes pipe sizes 1/8 to 2 inches, including a 2-inch coupling.

The chain is steel, 38 inches long. Will stand a strain of 2000 pounds.

Description	Each	Ship. Wt. Lb.
Vise Complete with Chain Attachments.....	\$9.50	14½
Extra Upper Jaws.....	.50	¼
Extra Lower Jaws..... per pair	1.35	¾
Extra Chain Attachments.....	3.50	4½
Extra Upper Jaw Clamps... per pair	.65	1
Extra Screw with Handle.....	1.40	3

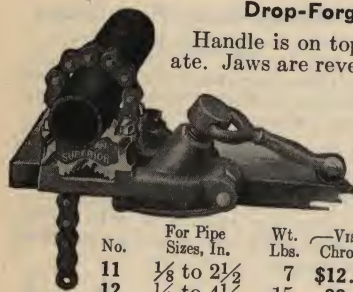
Williams' Vulcan Drop-Forged Chain Pipe Vises



Unbreakable, compact, rapid in action and positive in grip.
Made entirely of wrought steel with drop-forged jaws, base and handle. Jaws are saw tempered for file sharpening.
Serviceable upon and suitable for fastening to bench or post.
Standard finish, jaws have bright face around panel.

No.	Complete Each	Jaws per Pr.	EXTRA PARTS				Cap. Pipe In.	Approx. Size Folded In.	Approx. Wt. Lbs.
			Chain with Screw Each	Screw Each	Handle with Nut Each	Nut Each			
1	\$7.00	\$3.00	\$2.50	\$8.00	\$2.20	\$1.40	1/8-2	4x 5x 6	4
2	15.00	7.00	4.80	1.40	4.20	2.70	1/4-4	6x 8x 8	10
3	27.00	12.00	9.00	2.50	7.00	4.00	1/2-6	8x 9x11	18
4	36.00	18.00	12.00	2.50	7.00	4.00	1/2-8	8x10x12	30

Williams' Vulcan Superior Chain Pipe Vises Drop-Forged



Handle is on top where it is easy to operate. Jaws are reversible—unscrew bolts and turn jaws over when teeth wear. Each vise takes pipe 1/2 inch larger than other chain vises of similar size. Wrought steel, chrome-plated, or standard finish.

No.	CHAIN ONLY		SCREW		HANDLE & SCREW		CHAIN ARM	
	Chrome	Std.	Chrome	Std.	Chrome	Std.	Chrome	Std.
11	\$2.20	\$2.00	\$1.15	\$1.00	\$2.80	\$2.35	\$1.40	\$1.20
12	4.00	3.60	1.65	1.45	4.15	3.50	2.25	1.85

Armstrong Bros. Chain Pipe Vises Cadmium Finish

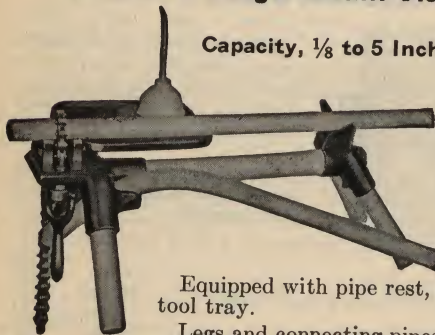


Especially adapted for use on outside jobs.
Made of drop forged steel with hardened jaws.
Maximum strength and capacity are combined in this vise with minimum weight. Convenient for carrying in tool bag or chest and can be easily attached to post or bench.
Screws will be sent with chains unless chain only is specified.

No.	Holds Pipe, In.	Wt. Lbs.	Jaws Each	Chain with Screw per Pr.	Screw Only	Handle with Nut	Nut Only
1-C	1/8-2 1/2	4 1/2	\$7.00	\$3.00	\$2.50	\$8.00	\$2.20
2-C	1/4-4	12 1/2	15.00	7.00	4.80	1.40	4.20
3-C	1/4-6	18	27.00	12.00	9.00	2.50	7.00
4-C	1/4-8	30	36.00	18.00	12.00	2.50	7.00

No. S-C-5 Ridgid Chain Vise Stands

Capacity, 1/8 to 5 Inches



Handy portable chain vise stand.

Sturdy malleable metal frame.

High quality tool steel jaws.

Equipped with pipe rest, pipe bender, and tool tray.

Legs and connecting pipes not furnished.

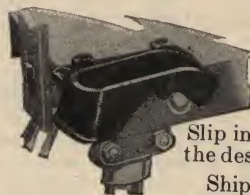
Shipping weight, 22 pounds.

No. 25 Nye Vise Stands



This 3-leg collapsible stand may be folded without removing or loosening any bolts. Made of malleable iron with outer edges reinforced, slotted to accommodate standard vises. No drilling necessary. Stands 36 inches high. Has leg spread of 54 ins. Legs are equipped with feet constructed to prevent sliding, also drilled for fastening to floor. Pipe rest built permanently on stand can be used as a pipe bender, up to 3/4-in. pipe or conduit.

No. 25 Stand Only. Ship. Wt. 35 Lbs. each \$18.00
No. 25 Stand with Self Locking Vise, Cap. 1/8-2 1/2 In. Ship. Wt. 44 Lbs. each 23.00



Toledo Pipe Benders

Will bend all pipe or conduit up to and including 1 inch. May be bolted to any bench.

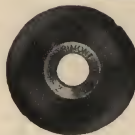
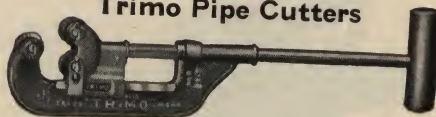
No adjustments necessary.

Slip in pipe and pull down until there is the desired bend.

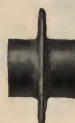
Shipping weight, 5 pounds.

Each. \$1.00

Trimo Pipe Cutters



Smooth Edged Wheel



Nut



Roll

A one wheel cutter. Can be converted into 3-wheel cutter by substituting 2 wheels for 2 rolls. Trichrome silvered wheels. No thread in frame or roll block. Small case-hardened nut adjusts handle screw.

Made of drop-forged steel, cadmium plated. Rustproof.

No.	1	2	3	4
Cuts Pipe..... inches	1/8-1 1/4	1/8-2	1-3	2-4
Complete..... each	\$5.00	\$6.00	\$10.00	\$20.00
Nuts..... each	.35	.35	.40	.60
Smooth-Edge Wheels (of Chrome Vanadium Steel) Each.....	.60	.60	.90	1.20
Teeth-Edged Wheels (of Chrome Vanadium Steel) Each.....	.60	.60	.90	1.20
Rolls..... each	.30	.30	.40	.40
Pins with Cotter Pins, per doz.	1.30	1.30	1.30	2.00
Extra Cotter Pins, per doz.	.20	.20	.20	.20
Anti-Friction Washers, per doz.	.60	.60	.60	.60
Roll Block..... each	1.25	1.25	2.25	4.00
Frames..... each	2.25	2.50	3.25	9.50
Handle Screws..... each	1.00	1.25	2.00	4.00
Handles..... each	.50	.50	.50	.60
Roll Block Pin..... each	.03	.03	.03	.03
Length Each..... inches	15 3/4	17 3/4	19 1/2	24
Weight Each..... pounds	5 1/4	6	8 3/4	13 3/4

Nye Barnes Type 3-Wheel Pipe Cutters



For cutting pipe in corners and where cutters cannot be revolved entirely around pipe. Frame is of certified malleable castings; pins are hardened. With 3 smooth thin-blade cutter wheels (unless knurled edge are specified). Parts are interchangeable with other makes of cutters of the same pattern.

No.	Cuts Pipe Inches	Ship. Wt. Lbs.	PRICE					
			Complete	Wheels Each	Pins per Doz.	Body Each	Slide and Wheel Each	Handle and Screw Each
1	1/8 to 1	3 1/2	\$4.50	\$.50	\$1.00	\$1.75	\$.75	\$1.00
2	1 1/2 to 2	5 1/2	6.00	.60	1.00	2.60	1.00	1.25
3	2 1/2 to 3	8 1/2	10.00	.80	1.00	4.55	2.00	2.25
4	3 1/2 to 4	15 1/4	20.00	1.00	2.00	9.50	4.50	4.50
5	4 to 6	24 3/8	30.00	1.10	2.00	13.75	7.00	7.00
6	6 to 8	29 1/2	40.00	1.10	2.00	20.00	8.50	9.00

Nye Saunders Type Cutters

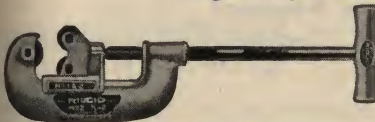


All parts are interchangeable with other standard Saunders cutters.

With smooth edge thin-blade cutter wheels. Blades of wheels measure about 1/8 inch in thickness straight from hub to cutting edge. Smooth edge cutter wheels furnished unless knurled edge are specified.

No.	Cuts Pipe In.	Ship. Wt. Lb.	Complete	Body Each	Wheels Each	Rollers Each	Pins per Doz.	Blocks and Wheels Each	Handle and Screw Each
1	1/8-1	4	\$3.00	\$1.00	\$.50	\$.24	\$1.20	\$1.25	\$1.00
2	1-2	7 1/4	4.50	1.50	.60	.32	1.20	1.75	1.25
3	2-3	13 1/2	7.50	6.00	1.10	.50	1.80	2.75	1.75
4	2 1/2-4	18	15.00	10.00	1.10	.50	1.80	3.50	3.50
5	4-6	26 3/8	22.50	15.00	1.10	.60	1.80	4.00	5.00

Ridgid Pipe Cutters



Thin blade standard cutter wheel coined from special tool steel, forged and assembled in a solid steel bushed

hub. Heavy duty wheel and heavy duty cutter with powerful malleable alloy frame that holds perfect alignment, always cuts true. Both available with three wheels.

No.	1	2	3	4
Each, Std. or H. D...	\$3.00	4.00	6.67	13.33
Capacity.....in.	1/8 to 1 1/4	1/8 to 2	1 to 3	2 to 4
Weight.....lb.	6	7	14 1/2	18

Parts



Cutter Roll Pin



Cutter Roll

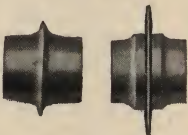


Heavy Duty Wheel



Standard Thin Wheel

Wheel for Cast Iron Pipe

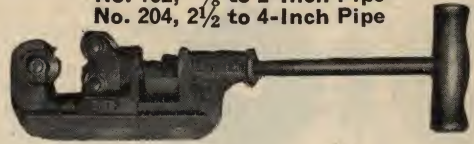


Standard Thin Wheel

No.	1	2	3	4
Standard Thin Wheel.....each	\$.28	\$.28	\$.44	\$.44
Heavy Duty Wheel.....each	.33	.33	.50	.50
Cast Iron Wheel.....each	.22	.22	.44	.44
Frame.....each	1.35	2.40	2.90	8.90
Screw Handle.....each	.50	1.00	2.00	2.00
Pipe Handle.....each	..	..	.70	.70
Roll Housing.....each	.90	.90	1.05	3.00
Roll.....each	.18	.18	.45	.45
Pin and Clip.....each	.12	.12	.17	.17

Beaver Square-Built Wheel Cutters

No. 102, 1/8 to 2-Inch Pipe
No. 204, 2 1/2 to 4-Inch Pipe



Made of malleable iron, with square frames surface ground. Wheels are at exact right angles. No. 102 may be used either as a one or three-wheel cutter; No. 204 is a three-wheel cutter.

No.	102	204
Each.....	*\$3.60	\$12.00
Extra Wheels, Standard.....each	.33	.50
Extra Rollers.....each	.18	..
Extra Pins.....each	.06	.10
Shipping Weight.....pounds	7 1/4	16

*With 1 wheel, 2 rollers; for 3 wheels, add 27 cents.

Beaver Square-End Pipe Cutters

No. 1, 1/8 to 1 Inch

No. 5, 1/2 to 2 Inch



For cutting, grooving or beveling pipe.

This pipe cutter cuts like a lathe tool, each turn removing a thin shaving until the pipe is severed. Leaves no burr to be reamed or filed, or to reduce the capacity of the pipe, and threading dies start easily and with less wear.

No.	1	5
Complete.....each	\$13.50	\$15.00
Extra Cutting Knives.....per set	.80	1.00
Grooving or Beveling Knives.....per set	..	2.00
Shipping Weight.....pounds	8 1/2	14

Beaver Square-End Pipe Cutters



No. 104

Self-contained. Gears encased and packed in grease. Unbreakable knives feed automatically. Universal two-jaw chuck centers and clamps it on the pipe; no bushings. A one-piece tool.

No. 104 Cutter with No. 41-E Die Stock makes an excellent 2 1/2 to 4-inch combination for hand or power drive.

*No. 10 ratchet for hand use only.

No.	*10	104	106	108	112
Size.....in.	2 1/2-4	2 1/2-4	2 1/2-6	4 1/2-8	9-12
Complete.....each	\$54.00	\$60.00	\$120.00	\$150.00	\$200.00
Extra Knives,					
Cutting.....set	2.00	2.00	4.00	5.00	6.00
Beveling Knives.set	3.00	3.00	6.00	7.50	9.00
Grooving Knives.set	3.00	3.00	6.00	7.50	9.00
Ship. Wt. Com..lb.	55	94	176	181	230

Toledo Automatic Pipe Cutters

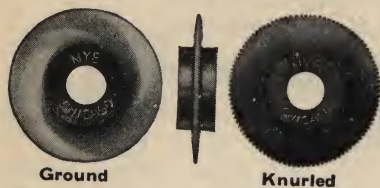


Cutters cut smoothly and leave a straight square end cut without burr, and chamfer outer edge. Knives are fed automatically. Hand wheel sets knives for cutting, or quick return after pipe is cut off. Operated with regular ratchet handle or Toledo Power Drive.

Complete outfit consists of tool body, set screw wrench, bushings, and an extra set of cutter knives. In addition, No. 80 has two sets of cutter blocks.

No.	Description	Ship. Each Wt. Lb.
40	Pipe Cutter Complete, 2 to 4-Inch Pipe...	\$60.00 86
..	Ratchet for No. 40.....	3.50 11
80	Pipe Cutter Complete, 4 1/2 to 8-Inch Pipe.	150.00 189
..	Ratchet for No. 80.....	4.50 13

Nye Thin Blade Cutter Wheels



Fits all standard makes of pipe cutters. Made from high grade alloy steel. Blades are less than 1/8-inch thick and practically straight. Made both knurled and ground.

No.	Description	Wt. Oz.	
		Each	per Doz.
1-B	Barnes	\$.50	8
2-B	Barnes	.60	11
3-B	Barnes	.80	16
4-B	Barnes	1.00	26
5-B	Barnes	1.10	40
6-B	Barnes	1.10	40
7-B	Barnes	1.10	40
1-S	Saunders	.50	9
2-S	Saunders	.60	14
3-S	Saunders	1.10	41
4-S	Saunders	1.10	41
5-S	Saunders	1.10	41
1-U	Nye Universal	.50	8
2-U	Nye Universal	.60	12
4-U	Nye Universal	1.00	40
1-T	Drop Forged (Trimo)	.60	12
2-T	Drop Forged (Trimo)	.60	12
3-T	Drop Forged (Trimo)	.90	18
1-N	Nye Old Style (Crown)	.70	8
2-N	Nye Old Style (Crown)	.80	20
3-C	Crown	1.10	32
2-A	Armstrong	.60	16
2-H	Hollands	.60	16
2-R	Reed-Hook	.60	11
2-RB	Reed-Block	.60	12
1-R	Ridgid	.60	9
2-R	Ridgid	.60	9
3-R	Ridgid	.90	20
4-R	Ridgid	.90	20

Nye Cutter Pins

No.	Barnes Per Doz.	Saunders Per Doz.	*Nye Drop Forged Per Doz.	Nye Per Doz.	†Nye-R Per Doz.	Nye Universal Per Doz.
1	\$1.00	\$1.20	\$1.00	\$1.20	\$2.00	\$2.00
2	1.00	1.20	1.00	1.80	2.00	2.00
3	1.00	1.80	1.00	...	3.00	...
4	2.00	1.80	...	...	3.00	3.00
5	2.00	1.80	...	...	...	...

Nye Cutter Rollers

No.	Nye Each	Saunders Each	*Nye Drop Forged Each	†Nye-R Each	Nye Universal Each	Barnes Each
1	\$.24	\$.24	\$.25	\$.30	\$.30	\$.24
2	.50	.32	.25	.30	.35	.32
3	...	.50	.50	.50	...	.50
4	...	.50	...	.50	.50	.50
5	...	.60	...	...	...	.60

*Made to fit Trimo Type Cutters.

†Made to fit Ridgid Type Cutters.

GTD Straight Fluted Burring Reamers



This burring reamer is made of high-grade steel and is designed especially for removing burrs caused by cutting pipe. It may also be used for counter-sinking.

Care is taken in grinding this tool to adapt it for use in a variety of materials.

Has bit brace shank.

No.	0	1	2
Each	\$1.25	\$1.50	\$3.00
Per Dozen	15.00	18.00	36.00
Capacity Pipe...inches	1/8 to 1	1/4 to 1 1/4	1/4 to 2

GTD Bit Brace Burring Reamers

Spiral Fluted

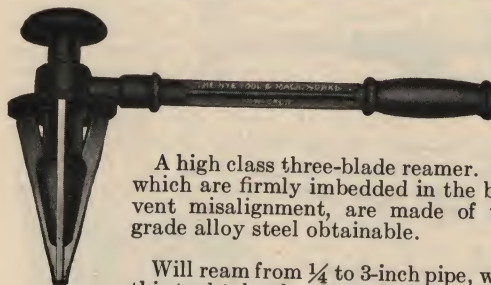


This burring reamer is made of high grade steel and is designed especially for removing burrs caused by cutting pipe. Also used extensively for countersinking.

Great care is taken in grinding this tool to adapt it for use in a variety of materials.

No.	241	242	242 1/2	244
Each	\$1.00	1.25	1.50	3.00
Capacity Pipe...inches	1/8 to 1/2	1/8 to 1 1/4	1/4 to 1 1/4	1/4 to 2

Nye Ratchet Reamers



A high class three-blade reamer. The blades, which are firmly imbedded in the body to prevent misalignment, are made of the highest grade alloy steel obtainable.

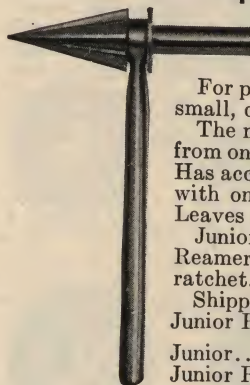
Will ream from 1/4 to 3-inch pipe, which makes this tool take the place of two reamers.

Shipping weight, 7 pounds.

Each	\$7.50
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Toledo Junior and Junior Ratchet Pipe Reamers

Capacity, 1/8 to 2 Inches Inclusive



For plumbers and electricians. All steel, small, compact, and easy to operate.

The multiple tooth reamer head is made from one piece of special heat treated steel. Has accurately ground teeth. Feeds easily with only a slight pressure; cuts rapidly. Leaves a smooth, clean cut.

Junior Ratchet is similar to Junior Pipe Reamer except that it is equipped with a ratchet.

Shipping weight Junior, 3 1/4 pounds; Junior Ratchet, 5 1/2 pounds.

Junior	each \$4.00
Junior Ratchet	each 5.00

Toledo Ratchet Pipe Reamers

Capacity, 3/8 to 3 Inches Inclusive



The cutter blades of this reamer are cast solidly in the head. They cut freely, and being made of high speed steel will out-wear ordinary blades.

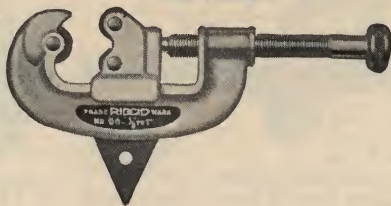
Can be readily resharpened, or when worn out, entire head can be replaced.

The handgrip is unique and so designed as to provide a natural position for holding the reamer.

The polished tubular handle is light in weight. The ratchet head is enclosed and unusually large in diameter, thereby assuring longer life to the ratchet parts.

Each, Shipping Weight 8 Pounds	\$5.60
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Ridgid Copper and Brass Tubing Cutters With Rolls



Cuts quickly, no burr.
Rollers smooth tube ready for soldering. Handy integral reamer.

No.	000	00	0
Each.	\$1.15	1.36	2.45
Capacity, O.D.	inches $\frac{1}{8}$ to 1	$\frac{3}{16}$ to $1\frac{1}{8}$	$\frac{1}{2}$ to $2\frac{1}{8}$
Weight.	pounds $\frac{3}{4}$	$1\frac{1}{2}$	$2\frac{1}{4}$

No. 94-F Imperial Tube Cutters



Makes a quick, clean cut through copper, brass, block-tin, aluminum, Bundyweld steel, or lead tubing.

Takes tubing from $\frac{1}{8}$ to $\frac{3}{4}$ -inch outside diameter.

The tube to be cut will not get out of round as it sometimes does when cut in a vise. The Imperial Tube Cutter makes a clean right-angle cut, leaving no burrs or chips to clog the line.

As the cutting wheel operates, it turns down a certain amount of metal that strengthens the tube for flaring.

No. 94-F.	each	\$2.25
No. 96-F, Extra Cutting Wheels.	each	.25
No. 97-F, Extra Reamer Blades.	each	.25

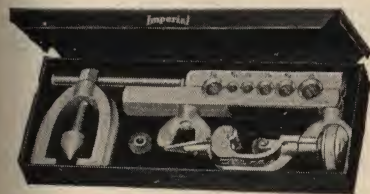
Imperial Tube Cutters



at bottom. Brass forged body, chromium plated. Knurled handle. Complete with reamer.

No. 174-F, For $\frac{3}{16}$ to $\frac{3}{4}$ -Inch O.D. Tubing.	each	\$2.75
No. 212-F, For $\frac{1}{16}$ to $1\frac{1}{8}$ -Inch O.D. Tubing.	each	3.25

Imperial Flaring and Cutting Tool Kits



Contains the necessary tools for cutting and flaring jobs on copper, brass and aluminum tubing.

Packed in a steel box.

No. 225-F. Contains No. 93-F flaring tool for $\frac{3}{16}$, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{1}{2}$ and $\frac{5}{8}$ -inch o.d. tubing; No. 174-F tubing cutter for $\frac{3}{16}$ to $\frac{3}{4}$ -inch o.d. tubing; No. 32633 extra cutting wheel..ea. \$6.00

No. 1225-F. Same as No. 225-F, except with No. 193F flaring tool instead of No. 93-F.....each \$6.25

No. 125-F. Same as No. 225-F, except with No. 94-F tubing cutter instead of No. 174-F.....each \$5.50

No. 1125-F. Contains No. 193-F Flaring Tool; No. 94-F tubing cutter and No. 96-F extra cutting wheel. . .each \$5.75

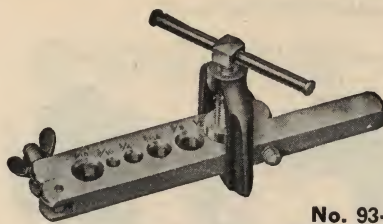
No. 226-F. Consists of No. 95-F flaring tool for $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{1}{2}$ and $\frac{5}{8}$ -inch o.d. tubing; No. 174-F roller type tubing, cutter with flare groove for $\frac{3}{16}$ to $\frac{3}{4}$ -inch o.d. tubing; No. 32633 extra cutting wheel.....each \$7.00

No. 1226-F. Same as No. 226-F, except with No. 195-F flaring tool instead of No. 95-F.....each \$7.25

No. 126-F. Same as No. 226-F, except with No. 94-F tubing cutter instead of No. 174-F.....each \$6.50

No. 1126-F. Contains No. 195-F flaring tool; No. 94-F tubing cutter and No. 96-F extra cutting wheel..each \$6.75

Imperial Flaring Tools



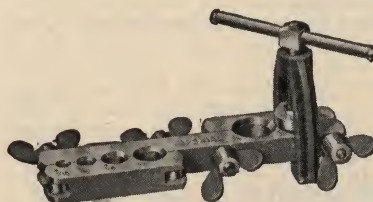
Flares copper, brass, aluminum or Bundyweld steel tubing to make up S.A.E. joints without cracking or splitting.
Cadmium-plated, case-hardened bar.

No. 93-F. For $\frac{3}{16}$, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{1}{2}$, and $\frac{5}{8}$ -inch tubing.
.....each \$3.00

No. 95-F. Specially designed for sizes used in electrical refrigerator work. Sizes $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{1}{2}$, and $\frac{5}{8}$ -inch tubing.
.....each \$4.00

No. 103-F. For air conditioning and plumbing work. Sizes $\frac{3}{4}$, $\frac{1}{2}$, and 1-inch tubing.....each \$5.00

No. 175-F Imperial Flaring Tools



Wide range type flaring tool. Flares copper, brass, aluminum or Bundyweld steel tubing to make up S.A.E. flared joints without cracking or splitting.

When S.A.E. flared fittings are used, a proper flare of the tubing is necessary to prevent leakage.

No vise is required and there are no loose dies to get lost or mislaid.

Takes tubing sizes $\frac{3}{16}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, and $\frac{3}{4}$ -inch outside diameter.

No. 175-F......each \$4.85

No. 102-F Imperial Tube Benders External Type



Bends tubing by hand to any desired shape without collapsing the tube.

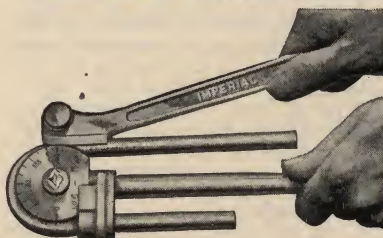
Especially prepared spring wire coil furnished in six sizes to take copper or brass tubing. Cadmium plated springs prevent rusting. Belled end assures ease in removing from tubing after bend has been made.

No.	102-F	102-F	102-F	102-F	102-F	102-F
Each.	\$2.25	.30	.35	.40	.45	.50
Size.	inches $\frac{1}{4}$	$\frac{3}{16}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$
Length.	inches 10	10	10	12	12	12

Sets

No. 101-F, Set of 6, One of Each $\frac{1}{4}$, $\frac{3}{16}$, $\frac{3}{8}$, $\frac{1}{2}$, and $\frac{5}{8}$ -Inch Size.	per set	\$2.05
No. 163-F, Set of 4, One of Each $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, and $\frac{5}{8}$ -Inch Size.	per set	1.45

No. 364-F Imperial Hand Tube Benders



A one-piece, open side bender which slips over the tubing quickly without adjustments.

Used to make bends at the end or at any part of the tubing. Bends can be made to any angle up to 180°.

Calibrated to show degree positions. A different bender is required for each size of tubing excepting the $\frac{1}{16}$ -inch size which can also be used for the $\frac{1}{8}$ -inch size.

O. D. Tubing.	in. $\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$
Radius to Ctr. of tube.	in. $\frac{1}{16}$	$\frac{9}{16}$	$\frac{1}{16}$	$\frac{13}{16}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$
No. 364-F.	each	\$2.95	3.25	3.50	3.75	5.25	9.00

Armstrong Bros. Adjustable Pipe Die Sets with Stocks

Cadmium Finish



Dies are made of special Vanadium tool steel with backed-off chasers. Each set consists of one stock complete with an assortment of dies and guides as listed. American Standard Briggs right hand dies furnished unless otherwise specified. Drop forged wrench furnished with each set.

Sizes 1/2 and 3/4, 1 and 1 1/4 inches in the No. 2 1/2-A and No. 2 1/2-A-4 sets are double end dies.

Ring guides are standard equipment; adjustable guide furnished when specified.

Set No.	Compl. with Adjustable Guide per Set	Compl. with Ring Guides per Set	For Threading Pipe Size—Inches	Weight of Set Pounds
1-A	\$10.80	\$9.00	1/8, 1/4, 3/8, 1/2	5
1-A-5	12.00	10.25	1/8, 1/4, 3/8, 1/2, 3/4	5 1/8
2-A	14.00	12.00	1/4, 3/8, 1/2, 3/4, 1	12
2-A-3	10.50	8.75	1/2, 3/4, 1	10 1/4
2-A-4	12.25	10.50	3/8, 1/2, 3/4, 1	11 1/4
2-A-6	16.00	14.00	1/8, 1/4, 3/8, 1/2, 3/4, 1	13
2 1/2-A	16.50	14.00	1/2 and 3/4, 1 and 1 1/4	14
2 1/2-A-4	21.50	19.00	1/4, 3/8, 1/2 and 3/4, 1 and 1 1/4	18
2 1/2-A-5	19.00	16.50	1/2, 3/4, 1, 1 1/4, 1 1/2	16 3/4
2 1/2-A-6	21.50	19.00	3/8, 1/2, 3/4, 1, 1 1/4, 1 1/2	18
3-A	21.00	18.00	1 1/4, 1 1/2, 2	29
3-A-4	24.00	21.00	1, 1 1/4, 1 1/2, 2	32
3-A-5	27.00	24.00	3/4, 1, 1 1/4, 1 1/2, 2	37
3-A-6	30.00	27.00	1/2, 3/4, 1, 1 1/4, 1 1/2, 2	41
6-A-2	.....	50.00	2 1/2 and 3	80

Repair Parts

No.	Stock Complete without Dies or Guides Each	Extra Ring Guides Each	Extra Wrenches Each	Extra Collar Screws Each	Extra Guide Screws Each	Extra Adjusting Screws Each	Extra R.H. Dies Each	Extra L.H. Dies Each	Extra Handles per Pair
1-A	\$3.25	.30	.20	.25	.20	.20	\$1.60	\$3.20	.75
2-A	4.00	.40	.25	.30	.30	.20	2.00	4.00	1.25
2 1/2-A	5.25	.60	.25	.35	.30	.35	2.50	5.00	1.25
2 1/2-A	5.25	.60	.25	.35	.30	.35	3.50	7.00	1.25
3-A	7.00	.75	.30	.50	.50	.40	3.50	7.00	2.50
6-A	36.00	2.00	.55	.70	.60	.50	8.50	17.00	*7.00

*Four handles.

Nye Improved Solid Dies Skip Tooth with Threaded Throat

The Nye feature of removing every alternate tooth in the back of the die to reduce friction, and of relieving or backing off each segment, is used in the Nye Solid Die. It is hardened and tempered in oil.

No.	Each	Dimensions, Inches	Size Dies Inches	Wt. Lb.
Junior	\$2.75	2 x2 x 3/4	1/8, 1/4, 3/8, 1/2, 3/4	8 1/6
0	2.75	2 x2 x 1/2	1/8, 1/4, 3/8, 1/2	7 1/6
1	3.00	2 1/2 x2 1/2 x 3/4	1/8, 1/4, 3/8, 1/2, 3/4, 1	1
1 1/2	4.00	3 x3 x 3/4	1/8, 1/4, 3/8, 1/2, 3/4, 1, 1 1/4, 1 1/2	1 1/6
2	5.00	4 x4 x 7/8	1/2, 3/4, 1, 1 1/4, 1 1/2, 2	2 3/4
4	15.00	5 x5 x1 1/4	2 1/2, 3	3 1/2

Dies are made in both Briggs and Whitworth Standard. Right hand and the Briggs Standard dies furnished unless otherwise specified. Add 50 per cent for left hand dies.

Armstrong Bros. Solid Pipe Die Sets Cadmium Finish



Each set Consists of one stock complete with an assortment of dies and guides as listed. Right hand American National (Briggs) dies will be sent if not otherwise specified. Left-hand dies take double list. Ring guides are standard; adjustable guides furnished if specified.

Set No.	With Adjustable Guides	With Ring Guides	For Threading Pipe Size—Inches	Size of Dies, Inches	Weight of Set, Pounds
0	\$9.80	\$8.00	1/8, 1/4, 3/8, 1/2	2 x2 x 1/2	6 1/2
1	12.50	10.50	1/4, 3/8, 1/2, 3/4, 1	2 1/2 x2 1/2 x 3/4	13
1-2	8.25	6.00	1/2, 3/4	2 1/2 x2 1/2 x 3/4	11 1/2
1-3	9.75	7.50	1/2, 3/4, 1	2 1/2 x2 1/2 x 3/4	12
1-4	11.25	9.00	3/8, 1/2, 3/4, 1	2 1/2 x2 1/2 x 3/4	12 1/2
1-5	12.50	10.50	1/8, 1/4, 3/8, 1/2, 3/4	2 1/2 x2 1/2 x 3/4	13
1-6	14.00	12.00	1/8, 1/4, 3/8, 1/2, 3/4, 1	2 1/2 x2 1/2 x 3/4	14
1 1/2	12.00	9.50	3/4, 1, 1 1/4	3 x3 x 3/4	14
1 1/2-4	14.00	11.50	1/2, 3/4, 1, 1 1/4	3 x3 x 3/4	16
1 1/2-5	16.50	14.00	3/8, 1/2, 3/4, 1, 1 1/4	3 x3 x 3/4	18
1 1/2-6	18.00	15.50	1/4, 3/8, 1/2, 3/4, 1, 1 1/4	3 x3 x 3/4	22
2	.....	14.50	1 1/4, 1 1/2, 2	4 x4 x 7/8	25
2-4	.....	17.00	1, 1 1/4, 1 1/2, 2	4 x4 x 7/8	29
2-5	.....	19.50	3/4, 1, 1 1/4, 1 1/2, 2	4 x4 x 7/8	33
2-6	.....	22.00	1/2, 3/4, 1, 1 1/4, 1 1/2, 2	4 x4 x 7/8	37

REPAIR PARTS, EACH

No.	Stock Without Dies or Guides	Extra Ring Guides	Adj. Pipe Guides	Extra Lead Screws	Extra Name Plates	Extra Screws	R.H. Dies Each	Extra Handles per Pr.	Dimen. In.
0	\$3.00	.30	\$4.50	.....	\$.40	\$2.10	\$.40	.75	2 x2 x 1/2
1	3.50	.40	5.00	.....	.60	.30	1.60	1.25	2 1/2 x2 1/2 x 3/4
1 1/2	4.00	.60	6.00	.....	.80	.30	2.00	1.50	3 x3 x 3/4
2	8.50	.75	.....	\$2.00	1.00	.30	2.50	2.00	4 x4 x 7/8

No. 17 Beaver Ratchet Pipe Die Stocks 1/4 to 2 Inches



A rugged foolproof tool. Four large oil holes, bridged across the top to prevent spreading of die slots, facilitate oiling, provide ample chip clearance, and insure good threads. Die segments are square in shape. Removable for regrinding. Extra long handle and special die grinding assist

easy operation. For steel, iron, cast iron, brass, or copper pipe.

No. 17 Complete

Size.....inches	1 1/4-2	1 1/2-1 1/4	1 1/2-2	1 1/4-2	1 1/8-2
Each.....	\$12.80	14.20	21.00	26.20	28.80
Ship. wt.....pounds	28	27 1/2	41	49 1/2	53 1/2

Ratchets Only

Ratchet with Handle, Ship. Wt., 6 1/4 Pounds....each \$3.00

Die Heads with Dies

Size.....in.	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Each.....	\$2.60	2.60	2.60	2.60	2.60	3.00	3.00	3.40	3.40
Ship. wt. lb.	4 1/2	4 1/2	4 1/2	4 1/2	5 1/4	5 1/4	6 1/2	7 1/2	
Extra Dies, Any Size, Ship. Wt., 1/2 Pound....per set \$2.25									

Nye Genuine Skip-Tooth Conduit Dies With Threaded Throat

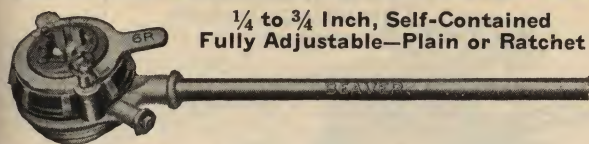


A solid square die for threading conduit pipe. Produces proper thread adopted and standardized by Conduit Manufacturers Association.

In three sizes, for 1/2, 3/4 and 1-inch conduit. Die block, 2 1/2 x2 1/2 inches. Shipping weight, 1 pound.

1/2, 3/4 or 1-Inch.....each \$3.00

Beaverette Easy Working Pipe Die Stocks



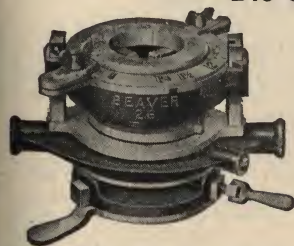
$\frac{1}{4}$ to $\frac{3}{4}$ Inch, Self-Contained
Fully Adjustable—Plain or Ratchet

A one-piece 4-way threader.

The two sets of dies required for this range, one set threading $\frac{1}{4}$ and $\frac{3}{8}$ inch, the other $\frac{1}{2}$ and $\frac{3}{4}$ inch, are always in the stock and are set to size by a single cam, or may be set to cut over or under standard size. A 3-jaw universal pipe guide eliminates loose bushings ($\frac{1}{8}$ -inch dies extra). Improved locking device, now on top, more accessible.

No. 6, Plain, Complete, Ship. Wt., 12 Lb. each **\$12.00**
No. 6R, Ratchet, Complete, Ship. Wt., 13 Lb. each **15.00**
Extra Dies Only, $\frac{1}{8}$, $\frac{1}{4}$ x $\frac{3}{8}$, or $\frac{1}{2}$ x $\frac{3}{4}$ Inches, Right
or Left, As Ordered, Ship. Wt., $\frac{1}{2}$ Lb. per set **2.25**

Beaver Heavy-Duty Self-Contained Die Stocks



**1 to 2 Inches
Fully Adjustable**

These die stocks are self-contained (no loose parts); thread 1", 1 $\frac{1}{4}$ ", 1 $\frac{1}{2}$ " and 2" pipe; adjustable for standard, over-size or under-size threads; will cut drip thread or close nipples.

A number of important improvements have been

made in the No. 26, and the new models pull much more easily due to improved die grinding.

Right or Left.

No. 26 Ratchet, Complete. Ship. Wt. 34 lb. **\$19.25**
No. 25 Plain, Complete. Ship. Wt. 28 lb. **16.50**
Extra Dies, Thread Four Sizes. Ship. Wt. $\frac{3}{4}$ lb. per set **2.34**

Toledo Adjustable Bolt Die Stocks



Dies are simultaneously moved in or out for deep, shallow, or standard threads, by turning the knurled sizing ring. Each die segment takes a proportional share of the work which makes easier cutting, smoother threads, and longer die life. Dies can be easily reground.

Die change is easily made from one size to another.

No. 101

Capacity, $\frac{1}{4}$ to $\frac{5}{8}$ -Inch N.C. (U.S.S.) or N.F. (S.A.E.)
Also $\frac{3}{8}$, $\frac{1}{2}$ and $\frac{1}{2}$ -Inch Pump Rod Dies

Measures 17 inches including handles. Weight, 2 $\frac{3}{4}$ pounds.

Ship.
Each Wt. Lb.

No. 101 Complete with $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{9}{16}$, and
 $\frac{5}{8}$ -In. R.H. Dies and Box, (Specify N.C. or N.F.). **\$12.10** 5
No. 101 Stock with 1 Set R.H. Dies and Guide. **3.20** 2 $\frac{3}{4}$
Stock Only. **1.80** ...
R.H. Dies. per set **1.30** ...
Guides. **.10** ...
Red Enameled Metal Box, 7 $\frac{1}{4}$ x4 $\frac{3}{4}$ x1 $\frac{3}{4}$ Inches. **.50** 1 $\frac{1}{4}$

No. 102

Capacity, $\frac{1}{2}$ to 1-Inch N.C. (U.S.S.) or N.F. (S.A.E.)

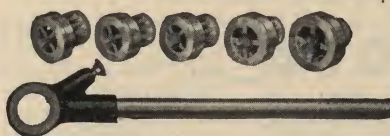
Measures 25 $\frac{1}{2}$ inches including handles. Weight, 5 $\frac{1}{4}$ pounds.

Ship.
Each Wt. Lb.

No. 102 Complete with $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, and 1-
Inch R.H. Dies and Box, (Specify N.C. or N.F.). **\$12.75** 10
No. 102 Stock with 1 Set R.H. Dies and Guide. **4.00** 5 $\frac{1}{4}$
Stock Only. **2.45** 5
R.H. Dies. per set **1.40** $\frac{1}{4}$
Guides. **.15** $\frac{1}{8}$
Red Enameled Metal Box, 11 $\frac{1}{4}$ x5 $\frac{3}{4}$ x1 $\frac{1}{8}$ Inches **1.00** 3

No. 00 Toledo Ratchet Threaders

Capacity $\frac{1}{8}$ to $\frac{3}{4}$ -Inch Pipe



Regular Non-Adjustable



Adjustable

Regular complete tool consists of handle, $\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$ and $\frac{3}{4}$ -inch regular die heads with right hand dies.

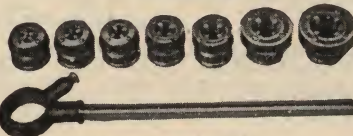
Adjustable die heads give quick adjustment of 4 to 5 turns over or under size, as well as standard.

Ratchet handle or 2-handle stock can be furnished; also special $\frac{3}{8}$, $\frac{1}{2}$ or $\frac{3}{4}$ -inch left-hand dies.

		Ship. Wt. Lb.
No. 00 Regular, Complete, $\frac{1}{8}$ to $\frac{3}{4}$ Inch. each	\$12.35	10
Ratchet Only or Two-Handle Stock. each	1.95	3
$\frac{1}{8}$, $\frac{1}{4}$ or $\frac{3}{8}$ -In. Reg. Die Head and R.H. Dies. ea.	1.95	2
$\frac{1}{2}$ or $\frac{3}{4}$ -In. Regular Die Head and R.H. Dies. ea.	2.28	2
$\frac{1}{8}$, $\frac{1}{4}$ or $\frac{3}{8}$ -In. Adj. Die Head and R.H. Dies. ea.	3.35	2
$\frac{1}{2}$ or $\frac{3}{4}$ -Inch Adj. Die Head and R.H. Dies. ea.	3.50	2
Regular Dies. per set of 4 segments	1.30	1
$\frac{1}{8}$, $\frac{1}{4}$ or $\frac{3}{8}$ -Inch Adjustable Dies. per set	1.60	1
$\frac{1}{2}$ or $\frac{3}{4}$ -Inch Adjustable Dies. per set	1.75	1
Steel Case for Handle and 7 Die Heads. each	1.25	6
Steel Case for Handle and 16 Die Heads. each	2.95	10

No. 11 Toledo Ratchet Pipe Threading Devices

Capacity $\frac{1}{8}$ to 1 $\frac{1}{4}$ -Inch Pipe



Complete tool consists of ratchet, r.h. die heads with dies in a carton.

Die heads instantly changed by pulling ratchet pawl

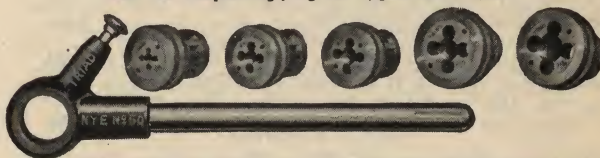
knob. Die segments can be removed and reground.

		Ship. Wt. Lb.
No. 11, Complete, $\frac{1}{8}$ to 1 $\frac{1}{4}$ -Inch Size. each	\$19.50	22
Ratchet Only. each	2.00	4
$\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$, 1, 1 $\frac{1}{4}$ " Die Head with R.H. Dies. each	2.50	2
$\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$ or $\frac{3}{4}$ -In. Dies Only. per set	1.30	1
1 or 1 $\frac{1}{4}$ -Inch Dies Only. per set	1.63	1
Die Heads, U.S.S. Bolt Dies $\frac{1}{2}$ to 1-in. each	5.00	3
Steel Carrying Case. each	2.00	8

If complete tool is not desired, any combination may be ordered.

Nye Triad Ratchet Die Stocks

No. 50 Capacity, $\frac{1}{8}$ to $\frac{3}{4}$ -Inch Pipe
No. 60 Capacity, $\frac{1}{8}$ to 1 $\frac{1}{4}$ -Inch Pipe



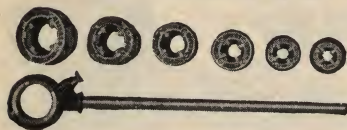
Stocks are made of malleable iron; die heads of steel; and solid round dies of finest grade of tool steel, held in place by two stationary pins built in die heads.

Description	No. 50			No. 60		
	Size In.	Dies Each	Wt. Lb.	Size In.	Dies Each	Wt. Lb.
Triad Stock with Dies.	$\frac{1}{8}$ - $\frac{3}{4}$	10 $\frac{3}{4}$	\$24.70	$\frac{1}{2}$ -1 $\frac{1}{4}$	16 $\frac{3}{4}$	\$24.20
Triad Stock with Dies.	$\frac{3}{8}$ - $\frac{3}{4}$	8 $\frac{1}{4}$	17.00	$\frac{3}{8}$ -1 $\frac{1}{4}$	18 $\frac{3}{4}$	29.16
Triad Stock with Dies.				$\frac{1}{8}$ -1 $\frac{1}{4}$	22 $\frac{3}{4}$	39.06
Triad Dies Only.	$\frac{1}{8}$ - $\frac{1}{4}$ - $\frac{3}{8}$	3 $\frac{30}{16}$	3.30	$\frac{1}{8}$ - $\frac{3}{8}$	3 $\frac{36}{16}$	3.30
*Triad Dies Only.	$\frac{1}{2}$ - $\frac{3}{4}$	3 $\frac{36}{8}$	3.86	$\frac{1}{2}$ - $\frac{3}{4}$	3 $\frac{36}{8}$	3.86
*Triad Dies Only.				1	4 $\frac{20}{8}$	4.20
*Triad Dies Only.				1 $\frac{1}{4}$	4 $\frac{20}{8}$	4.20
Triad Ratchet with Hdle.		3 $\frac{36}{8}$	4$\frac{3}{8}$		5 $\frac{60}{8}$	5.60
Triad Ratchet Only.		3 $\frac{30}{16}$	1$\frac{1}{2}$		4 $\frac{70}{8}$	4.70
Triad Ratchet Handle. ....		.56	1$\frac{1}{8}$		.92	2$\frac{1}{8}$
Triad Die Heads Complete.	$\frac{1}{8}$ - $\frac{1}{4}$ - $\frac{3}{8}$	4 $\frac{40}{16}$	1$\frac{1}{8}$	$\frac{1}{8}$ -1	5 $\frac{50}{8}$	5.04
Triad Die Heads Complete.	$\frac{1}{2}$ - $\frac{3}{4}$	4 $\frac{48}{16}$	1$\frac{1}{4}$	$\frac{1}{4}$	5 $\frac{50}{8}$	5.04
Handy Carrying Rack.	$\frac{1}{8}$ - $\frac{3}{4}$	1 $\frac{100}{16}$	1$\frac{3}{4}$	$\frac{3}{8}$ -1 $\frac{1}{4}$	1 $\frac{80}{8}$	1.80

*Can be furnished, if specified, for threading conduit.

No. 12 Toledo Ratchet Pipe Threading Devices

Capacity $\frac{1}{8}$ to 2-Inch Pipe



Die heads changed by pulling ratchet pawl knob. Special dies for electric conduit, brass or copper pipe. Complete tool has ratchet handle, Ship.

$\frac{1}{2}$, $\frac{3}{4}$, 1, $1\frac{1}{4}$, $1\frac{1}{2}$ and 2-inch die heads with dies.		26
No. 12, Complete.....	each	\$21.00
Ratchet Only.....	each	3.00
$\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$ or $\frac{3}{4}$ -In. Die Head with R. H. Dies.....	each	2.60
1 or $1\frac{1}{4}$ -Inch Die Head with R. H. Dies.....	each	3.00
$\frac{1}{2}$ or 2-Inch Die Head with R. H. Dies.....	each	3.40
$\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$ or $\frac{3}{4}$ -Inch Dies.....	per set	1.30
1 or $1\frac{1}{4}$ -Inch Dies.....	per set	1.63
$\frac{1}{2}$ or 2-Inch Dies.....	per set	2.15

Toledo 3-Way Pipe Threading Devices

Capacity $\frac{3}{8}$ to 1-Inch Pipe



A light, small tool, easy to operate. Each die head is on center thereby insuring a perfectly balanced tool. Dies are removable and can be reground when dull or replaced at a small expense.

No.	30	31
Complete.....	each	\$6.00 \$6.75
$\frac{3}{8}$ -Inch Dies, Set of 4 Segments, Wt. 1 Lb.	1.30	.....
$\frac{1}{2}$, $\frac{3}{4}$ -Inch Dies, Set of 4 Segments, Wt. 1 Lb.	1.30	1.30
1-Inch Dies, Set of 4 Segments, Wt. 1 Lb. ....	.....	1.63
Shipping Weight, Complete.....	pounds	$5\frac{1}{2}$ $8\frac{1}{2}$

Toledo Adjustable Pipe Threading Devices

Capacity, 1 to 2-Inch Pipe



Consists of the tool body, two handles, and complete set of 1 to 2-inch right hand dies and bushings. Also furnished for cutting left hand threads.

No. 1, R.H., Plain, Complete, 1 to 2-Inch.....	\$9.00	20
No. 1, L.H., Plain, Complete, 1 to 2-Inch.....	12.00	20
No. 1A, R.H., Ratchet, Complete, 1 to 2-Inch..	11.25	24
No. 1A, L.H., Ratchet, Complete, 1 to 2-Inch..	17.50	24
Dies, R.H., 1 to 2-Inch, Complete Set.....	3.50	..
1, $1\frac{1}{4}$, $1\frac{1}{2}$ -Inch Dies, R.H., Single Set.....	.75	..
2-Inch Dies, R.H., Single Set.....	1.25	..
1, $1\frac{1}{4}$, or $1\frac{1}{2}$ -Inch Dies, L.H. or Wrought Iron Pipe R.H., Single Set.....	1.00	..
2-In. Dies, L.H. or W.I. Pipe R.H., Single Set..	1.50	..
1, $1\frac{1}{4}$, $1\frac{1}{2}$, or 2-Inch Dies, Brass Pipe R.H. Single Set.....	1.00	..

Toledo Adjustable Pipe Threading Devices

Capacity 1 to 2-Inch Pipe



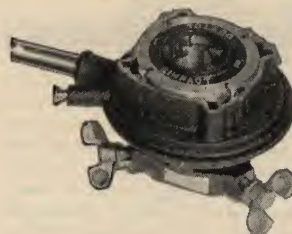
For brass and copper as well as iron or steel pipe. Separate set of dies for each size pipe. The 2-inch dies are of high speed steel.

Set consists of tool body, complete set of r.h. dies (1 to 2-inch), handle and instruction card.

No. 1B, Right-Hand Plain, Complete.....	each	\$12.00	21
No. 1BR, Right-Hand Ratchet, Complete.....	each	15.00	23
Complete Set of Right-Hand Dies.....	each	3.50	2
1, $1\frac{1}{4}$ or $1\frac{1}{2}$ -Inch Right-Hand Dies.....	per set	.75	1
2-Inch Right-Hand Dies.....	per set	1.25	1
1, $1\frac{1}{4}$ or $1\frac{1}{2}$ -In. Dies for W.I. Pipe.....	per set	1.00	1
2-Inch Dies for W.I. Pipe.....	per set	1.50	1
1, $1\frac{1}{4}$, $1\frac{1}{2}$ or 2-In. Brass Pipe Dies.....	per set	1.00	1

Toledo Simpack Adjustable Ratchet Pipe Threading Devices

Self Contained—Capacity 1 to 2-Inch Pipe



A direct action threading device in which the dies bear against tapered steps. Easily cleaned and disassembled.

Pockets in head collect the oil and continually drip it on the dies when cutting.

Dies are made of finest grade high speed steel and can be reground when dull.

The three-jaw pipe holder is designed for easy handling and accurate centering. Tubular handle, 24 inches long. Tool body has black crackle finish.

Complete tool consists of the tool body, one set of 1 to 2-inch high speed steel dies and the 24-inch handle. Each. Shipping Weight, 24 Pounds.....

\$15.00

No. 1R Toledo Ratchet Threading Devices

Capacity, 1 to 2-Inch Pipe



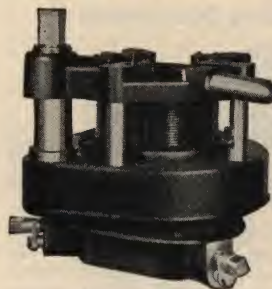
For brass and copper as well as iron or steel pipe. Separate set of dies for each size pipe. The 2-inch dies are of high speed steel.

Set consists of tool body, complete set of r.h. dies (1 to 2-inch), tubular handle (24 inches long), and instruction card.

No. 1R, Ratchet, Complete.....	each	\$10.00	22
Complete Set of Right-Hand Dies.....	each	3.50	2
1, $1\frac{1}{4}$ or $1\frac{1}{2}$ -Inch Right-Hand Dies.....	per set	.75	1
2-Inch Right Hand Dies.....	per set	1.25	1
1, $1\frac{1}{4}$ or $1\frac{1}{2}$ -Inch Dies for W.I. Pipe.....	per set	1.00	1
2-Inch Dies for W.I. Pipe.....	per set	1.50	1
1, $1\frac{1}{4}$, $1\frac{1}{2}$ or 2-In. Brass Pipe Dies.....	per set	1.00	1

No. 2BR Toledo Geared Adjustable Ratchet Pipe Threading Devices

Capacity $2\frac{1}{2}$ to 4-Inch Pipe

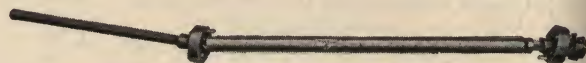


No bushings required.

Set consists of tool body, complete set of r.h. dies, set screw wrench, ratchet handle, and instruction card. Packed in a wooden box, ratchet handle shipped separately.

No. 2BR, R.H., Complete.....	each	\$55.00	95
Comp. Set Dies, $2\frac{1}{2}$ to 4-In.....	per set	16.00	8
$2\frac{1}{2}$ -Inch Dies.....	per set	4.00	3
3-Inch Dies.....	per set	4.00	3
$3\frac{1}{2}$ -Inch Dies.....	per set	4.00	2
4-Inch Dies.....	per set	4.00	2

Toledo Universal Drive Shafts



Especially designed to operate geared threading and cutting tools with power pipe machines. One end of the shaft is held in the chuck of the pipe machine and the socket is slipped over the driving pinion of the threading or cutting tool.

Shaft is extra long, measuring 20 inches, which permits inserting through spindle of No. 999 Toledo Machine and operating tools from rear of machine.

Socket is fitted with set screw and adjustable for large or small driving pinions of the pipe tools.

Overall length, $64\frac{1}{2}$ inches. Shipping weight, 42 pounds. Each.....

\$20.00

Toledo Standard Power Drives



Designed to electrically operate Toledo hand threading and cutting devices for 2½ to 12-inch pipe. Also used to turn sheet metal rolls, operate hoisting winches to pull electric cable through conduit, and on many other machines requiring hand cranking methods of operation.

Drive consists of a specially designed electric motor mounted in a housing which also encloses a transmission gearing, communicating with a driving shaft extending to the operating end of the shaft housing. Mechanism is mounted on iron wheels. Diameter of wheels, 18 inches.

The motors used in the regular model drive can be supplied for a.c. 1½ hp. They are much more powerful than the household type of motor, and should not be connected to a lamp socket of the ordinary household system. Twenty feet of flexible cable are supplied with each drive.

The driving head is furnished with two driving bushings to fit the two sizes of pinions used on the various Toledo tools. At slow speed, pinion rotates at 38 rpm.; high speed, 57 rpm. Can be furnished with a.c. single-phase motor, 110-220 volts; or a.c. 3-phase motor, 220-440 volts. Other motors quoted on request. Always specify voltage.

Length over all, 6 feet. Net weights, 230 to 273 pounds.

Description	Each	Ship. Wt. Lb.
With 60 or 50-Cycle Motor.....	\$250.00	328
With 25-Cycle Motor.....	300.00	350

Special Attachments for No. 1 Tool

To thread 1 to 2-inch pipe with a Toledo Power Drive, this attachment, which consists of a special yoke and pair of short handles, must be used. Shipping weight, 6 pounds. Each..... \$2.50

Toledo Super Power Drives

Similar in appearance to the Toledo Standard Drive, but slightly larger. The driving head rotates at 57 rpm. low speed and 97 rpm. high speed. Furnished with 2½-hp., 3-phase a.c. motor, 220 or 440 volts. Controlled by a specially designed switch conveniently located on the drive shaft casing. Flexible cable is 20 feet long.

Net weight, 278 pounds; shipping weight, 396 pounds.

Each..... \$325.00

Toledo Universal Power Drives

This drive has a ½-hp. universal motor, and will operate from a light socket on any 110-volt current. It may also be furnished with a 220-volt universal motor. Motor is reversible so that operator may back dies off the completed thread by a turn of the switch. May be used for opening or closing large, manually operated sluice gates. Driving head is slipped on the valve stem and may be turned for either horizontal or vertical stem valves.

Motor automatically adjusts speed to load, increasing power and decreasing speed on heavy loads and increasing speed on light loads. When light driving, bushing rotates about 30 rpm. Furnished with 20-foot rubber covered cable.

Net weight, 165 pounds.

Description	Each	Ship. Wt. Lb.
Universal Power Drive for 110 Volts....	\$200.00	242
Universal Power Drive for 220 Volts....	200.00	242
Rubber Tired Wheels.....per pair	10.00	30

Special Adjustable Safety Devices

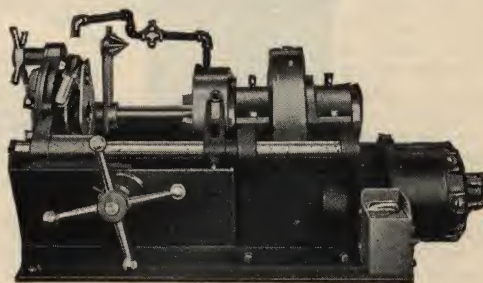
Fits in driving head and can be adjusted for 8 different loads. It will slip when any overload is applied, and is desirable when drive is used to operate sluice gates or gate valves. Shipping weight, 20 pounds.

Each..... \$50.00

No. 999 Toledo Pipe Machines

Bench and Floor or on Wheels

Capacity, ½ to 2-Inch Pipe, Inclusive



An efficient, small, compact, portable ½ to 2-inch power pipe machine. The ½-h.p. ball bearing universal motor operates from any 110-volt lamp socket. Sturdy drum-type switch. Other motors, quotation on request.

Can be furnished in any one of 3 ways as listed below and complete with ½ to 2-inch right hand dies, bushings, complete set of 4 cutter blades, chuck wrench, cutter blade wrench, 10 feet of cable with connectors and 1 gallon of thread cutting oil.

CUTTING AND THREADING SPEEDS.—2-inch pipe is cut off in 10 seconds; 2-inch pipe is threaded in 22 seconds with the Super Model, and in 30 seconds with the Standard Model.

Standard model same as super model except has non-opening die heads and dies.

Either machine can be furnished with ⅛, ¼ or ⅝-inch sizes if desired.

Super Model

With Quick-Opening Die Heads and Dies

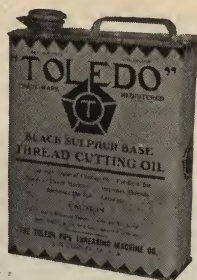
Description	Each	Ship. Wt. Lbs.
No. 999, Complete with 6 Q.O. Die Heads and ½ to 2-inch R.H. Pipe Dies (6 Sets).....	\$350.00	450
No. 999, Complete with 3 Q.O. Die Heads and ½ to 2-Inch R.H. Pipe Dies (6 Sets).....	309.95	432
No. 999, Complete with 3 Q.O. Die Heads and ⅝ to 2-Inch R.H. Pipe Dies (9 Sets).....	320.75	433
Plain Steel Stand, Open Type, No Wheels....	12.50	71
Plain Steel Stand, Open Type, with 16-Inch Steel Tired Wheels.....	17.50	113
Plain Steel Stand, Open Type, with 16-Inch Rubber Tired Wheels.....	22.50	111
Enclosed Steel Stand, with Partitioned Die Head Box, No Wheels.....	17.50	98
Enclosed Steel Stand, with Partitioned Die Head Box, and 16-Inch Steel Tired Wheels.....	22.50	140
Enclosed Steel Stand, with Partitioned Die Head Box and 16-Inch Rubber Tired Wheels.....	27.50	138
Pipe Support.....	7.50	30

Standard Model

With Non-Opening Die Heads and Dies

No. 999, Complete with 6 Non-Opening Die Heads and ½ to 2-Inch R.H. Pipe Dies, (6 Sets).....	\$275.00	434
No. 999, Complete with 9 Non-Opening Die Heads and ⅝ to 2-Inch R.H. Pipe Dies, (9 Sets).....	287.45	440
Plain Steel Stand, Open Type, No Wheels....	12.50	71
Plain Steel Stand, Open Type, with 16-Inch Steel Tired Wheels.....	17.50	113
Plain Steel Stand, Open Type, with 16-Inch Rubber Tired Wheels.....	22.50	111
Enclosed Steel Stand, with Partitioned Die Head Box, No Wheels.....	17.50	98
Enclosed Steel Stand, with Partitioned Die Head Box and 16-Inch Steel Tired Wheels.....	22.50	140
Enclosed Steel Stand, with Partitioned Die Head Box and 16-Inch Rubber Tired Wheels.....	27.50	138
Pipe Support.....	7.50	30

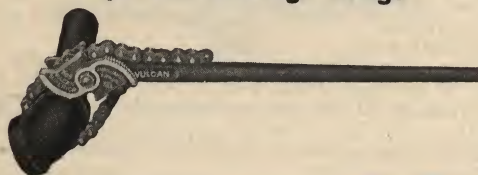
Toledo Black Sulphur Base Thread Cutting Oil



Will not turn rancid. Assures smooth, clean threads, tight joints and increased die service. Especially good for hand tools or power machines. Sold in 1 gallon cans or 5 gallon sealed pails or 1 pint cans with spout.

Per Gallon..... \$1.10

Williams' Vulcan Superior Drop-Forged Pipe and Fittings Tongs

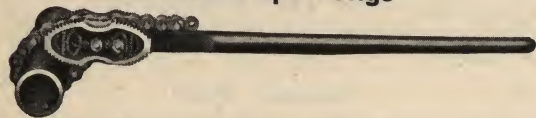


Reversible pipe and fittings-jaws. Takes flat or cable chain. V recess in jaws gives positive grip on fittings. Standard chains supplied regularly; Xtra-Strong chains of about 40% greater strength, when order.

No.	Capacity Pipe Inches	Length In.	Wt., Lb.	Complete Chain Each	Extra Chain Each	*Extra Jaws per Pair	Extra Bolts & Nuts per Set	Xtra-Strong Chain Only No.	Each
0	1/8-3/4	13 3/4	2	\$5.00	\$1.50	\$2.00	.28	X0	\$1.65
1	1/8-1 1/2	20	5 1/2	7.00	2.00	3.50	.36	X1	2.20
2	1/8-2 1/2	27	10	10.00	3.00	5.50	.46	X2	3.30
3	3/4-4	37	17	14.00	5.00	8.00	.60	X3	5.50
3 1/2	1-6	44 1/2	26	18.00	7.00	9.50	.70	X3 1/2	7.70
4	1 1/2-8	50 1/2	34	22.00	9.00	11.00	.90	X4	9.90
5	2-12	64 1/2	54	36.00	15.00	15.00	1.30	X5	16.50

*If only a single jaw is wanted, specify right or left.

Williams' Improved Vulcan Drop-Forged Chain Pipe Tongs



Drop-forged from wrought steel. Fitted with extra size through bolt and U.S. Std. nut fastening for jaws. Double ended reversible jaws may be quickly changed, end for end, as teeth first in use wear.

With standard flat chain. Xtra strong chain, 40% greater strength, when specified.

No.	Capacity Pipe Inches	Length In.	Wt. Lb.	Standard Comp. Each	Extra Chain Each	Extra Jaws per Pair	Extra Bolts & Nuts per Set	Xtra-Strong Chain Only No.	Each
30	1/8-3/4	13 3/4	2	\$5.00	\$1.50	\$2.00	.40	X30	\$1.65
31	1/8-1 1/2	20	5 1/2	7.00	2.00	3.50	.50	X31	2.20
32	1/8-2 1/2	27	10	10.00	3.00	5.50	.70	X32	3.30
33	3/4-4	37	17	14.00	5.00	8.00	.90	X33	5.50
33 1/2	1-6	44 1/2	24	18.00	7.00	9.50	1.10	X33 1/2	7.70
34	1 1/2-8	50 1/2	31	22.00	9.00	11.00	1.40	X34	9.90
35	2-12	64 1/2	52	36.00	15.00	15.00	1.80	X35	16.50
*16	4-18	87	137	80.00	40.00	32.00	2.50	X16	44.00

*Supplied only in non-reversible jaw pattern.

Ideal Chain Wrenches
For Pipe, Fittings and Flanges

The jaws have straight teeth for pipe and V-shaped teeth for fittings. They are drop forged from special high carbon steel, carefully milled, heat treated, hardened and tested for toughness and lasting qualities.

The handle is forged from spring steel selected to give the required stiffness.

The chain is proof-tested and bears a seal indicating that it has been tested to 3/4 of catalog strength; from 9800 to 21800 pounds.

Will be furnished with oval cable chain unless flat link chain is specified. The Ideal Flange Link consists of a special cast steel link and pin. It is readily attached to the wrench in place of the chain.

No.	Flange Link In.	CAPACITY, INCHES		Flat Link Chain Length Breaking In. Strain, Lbs.	Cable Chain Length Breaking In. Strain, Lbs.
		Size Pipe	Size Extreme Fittings Length		
2	1-4	1/2-3 1/2	27	17 1/2	9800
3	2-6	1-5	38	22 1/2	12500
4	2-8	1-8	49	32	14300
5	*4 1/2-16	2-12	61	50	21800

No.	Complete Wrench Each	Complete Flange Link Each	Extra Link Pin Each	Extra Chain Each	†Extra Jaws per Pair	Extra Studs & Nuts Per Set	Extra Pins Each
2	\$10.00	\$6.00	\$0.80	\$3.00	\$5.00	\$7.70	.15
3	14.00	8.00	.90	5.00	8.00	.90	.20
4	18.00	10.00	1.00	7.00	9.50	1.10	.25
5	36.00	19.00	1.10	15.00	15.00	1.80	.35

*4 1/2-20 and 4 1/2-24-inch sizes for No. 5 available.

†If single jaw only is wanted, specify right or left.

"Trimo-Alloy" Pipe Wrenches



Made entirely of heat-treated chrome-molybdenum, manganese and nickel steel alloys.

Sizes 10 to 14 inches are furnished with steel handle unless otherwise specified.

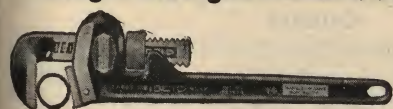
Length Open Inches	With Steel Handle Each	With Wood Handle Each	Takes Pipe Inches	Length Open Inches	With Steel Handle Each	Takes Pipe Inches
6	\$1.90	\$2.00	1/8 to 1/2	18	\$5.50	1/4 to 2
8	2.20	2.30	1/8 to 3/4	24	9.50	1/4 to 2 1/2
10	2.85	3.15	1/8 to 1	36	20.00	1/2 to 3 1/2
12	3.35	3.60	1/8 to 1 1/4	48	30.00	1 to 5
14	3.85	4.25	1/4 to 1 1/2	..	.....	.....

Extra Parts



For Wrench In.	Mov- able Jaw Each	Insert Jaws and Pins Each	Frames Each	Springs Each	Extra Frame Pins Each	Extra Jaw Pins Each	Steel Handles Each	Wood Han- dles with Ferrule Each	Nut with Guards Each
6	\$6.65	\$1.15	\$0.50	\$.45	\$.03	\$.03	\$1.00	\$.23	\$.15
8	.70	.15	.55	\$.03	\$.03	\$.03	1.15	.25	.15
10	1.10	.20	.65	.03	.04	.04	1.60	.30	.20
12	1.25	.25	.75	.03	.04	.04	1.80	.35	.30
14	1.50	.30	.85	.03	.04	.04	2.20	.36	.30
18	2.15	.35	.95	.04	.04	.04	3.25	...	.35
24	3.50	.55	1.10	1.75	.04	.04	5.15	...	.45
36	5.70	1.10	1.50	2.75	.04	.05	10.50	...	.55
48	9.00	2.00	2.00	3.50	.04	.05	17.00	...	.65

*Furnished with springs but without spring pin.

Ridgid Straight Pattern Pipe Wrenches

Powerful all-alloy housing and handle; housing guaranteed not to break or warp. Chrome molybdenum jaws will not slip or lock on pipe. Replaceable heel jaw, full-floating hook jaw with handy pipe scale. Adjusting nut spins easily in open housing in all sizes.

Packed 6 in a box, 6 to 24-inch inclusive.

Size In.	Each	Cap. In.	Wt. Lb.	Size In.	Each	Cap. In.	Wt. Lb.
6	\$1.90	3/4	1 1/2	18	\$5.50	2 1/2	5 1/4
8	2.20	1	3/4	24	9.50	3	8 3/4
*10	2.85	1 1/2	1 3/4	36	20.00	4 1/2	16 1/4
12	3.35	2	2 3/4	48	30.00	6	28
†14	3.85	2	3 1/2	60	45.00	8	43 1/4

*Complete with rubber grip, \$3.15 each.

†Complete with rubber grip, \$4.25 each.

Ridgid End Pattern Pipe Wrenches

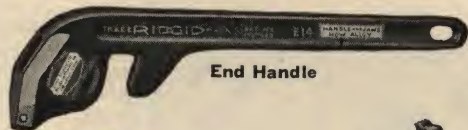
For work where pipe is close to wall or in tight places. Powerful all-alloy handle and housing; housing guaranteed not to break or warp. Chrome molybdenum jaws will not slip or lock on pipe. Replaceable heel jaw, full-floating hook jaw with handy pipe scale. Adjusting nut spins easily in all sizes.

Packed 6 in a box, 6 to 24-inch inclusive.

Size...in.	E6	E8	*E10	E12	†E14	E18	E24	E36
Each....	\$1.90	2.20	2.85	3.35	3.85	5.50	9.50	20.00
Cap...in.	3/4	1	1 1/2	2	2	2 1/2	3	4 1/2
Wt...lb.	1 1/2	3/4	1 3/4	2 3/4	3 1/2	5 1/4	8 1/4	16 1/4

*Complete with rubber grip, \$3.15 each.

†Complete with rubber grip, \$4.25 each.

Parts for Ridgid Pipe Wrenches

End Handle



Flat Spring



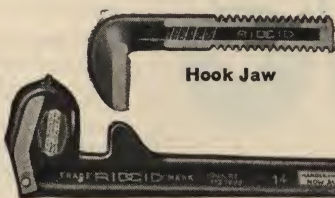
Coil Spring



Pin



Heel Jaw



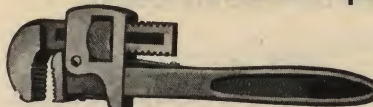
Hook Jaw



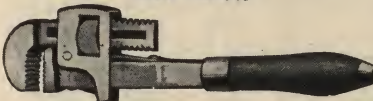
Nut

Straight Handle

Size In.	Handle Assembly		Hook Jaw Each	Heel Jaw & Pin Each	Coil Spring Each	Flat Spring Each	Nut Each	Rubber Grip Each
	Straight Each	End Each						
6	\$1.75	\$1.75	\$.65	\$.40	\$.03	\$.20	\$.15	....
8	1.95	1.95	.70	.45	.03	.20	.15	....
10	2.50	2.50	1.10	.55	.04	.20	.20	\$.40
12	2.85	2.85	1.25	.65	.04	.25	.25	....
14	3.45	3.45	1.50	.65	.04	.30	.30	.50
18	4.95	4.95	2.15	.75	.04	.40	.35	....
24	7.95	7.95	3.50	.85	.04	.50	.55	....
36	15.00	15.00	5.70	1.15	.05	.60	1.10	....
48	25.00	....	9.00	2.05	.05	.80	2.00	....
60	35.00	....	17.00	4.55	.05	1.50	4.00	....

Stillson Pattern Pipe Wrenches

Steel Handle



Wood Handle

Steel handle wrenches are made in sizes 6 to 48 inches.

Wood handle wrenches are made in sizes 6 to 14 inches, inclusive.

Sizes 10 and 14-inch shipped with steel handles unless otherwise ordered.

Length Open Inches	Takes Pipe Inches	PRICE, EACH			
		WRENCH Steel Handle	COMPLETE Wood Handle	EXTRA PARTS Bar with Springs	Jaws
6	1/8 to 1/2	\$1.90	\$2.00	\$1.00	\$.65
8	1/8 to 3/4	2.20	2.30	1.15	.70
10	1/8 to 1	2.85	3.15	1.60	1.10
14	1/4 to 1 1/2	3.85	4.25	2.20	1.50
18	1/4 to 2	5.50	....	3.25	2.15
24	1/4 to 2 1/2	9.50	....	5.15	3.50
36	1/4 to 3 1/2	20.00	....	10.50	5.70
48	1 to 5	30.00	....	17.00	9.00



Jaw



Frame



Handle



Nut

EXTRA PARTS—PRICE, EACH									
For Wrench In.	Frame and Pin	Frame Pin Only	Adjusting Nuts	Wood Handles, Ferrule	End Nuts	Front Springs Each	Back Springs Pair	Spring Pins or Rivets	
6	\$.45	\$.03	\$.15	\$.23	\$.15	\$.10	....	\$.01	
8	.55	.03	.15	.25	.15	.10	....	.01	
10	.70	.04	.20	.30	.20	.10	\$.20	.02	
14	.80	.04	.30	.36	.20	.10	.20	.02	
18	.95	.04	.35	...	...	.10	.20	.02	
24	1.75	.04	.55	...	...	.11	.22	.02	
36	2.75	.05	1.10	...	...	.13	...	.02	
48	3.50	.05	2.00	...	...	.13	...	.02	

Nye Closet Spud Wrenches

A light, handy tool for the plumber. Strong enough to stand any strain. Sizes, 1 1/4x1 1/2, 1 1/4x2 and 1 1/2x2 inches.

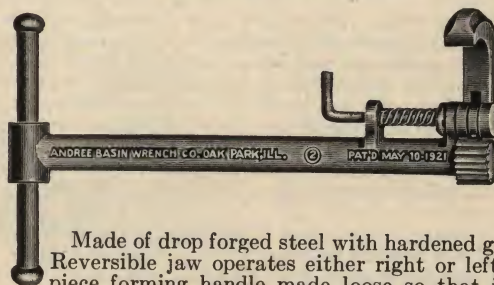
Price, Shipping Weight, 1 3/8 Pounds.....each \$1.00

Trimo Basin Wrenches

Can be used in close quarters. Operated with one hand. Length, 10 inches. Opens, 1 3/4 inches. Weight, 1 1/8 pounds.

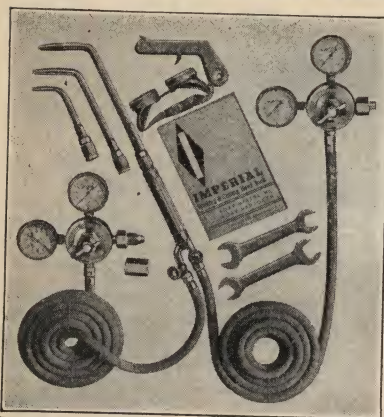


Description	Each
Wrenches.....	\$1.25
Extra Jaws.....	.50
Extra Nuts.....	.20
Extra Springs....	.10
Extra Screws....	.20

Andree Wrenches

Made of drop forged steel with hardened grip teeth. Reversible jaw operates either right or left. Cross-piece forming handle made loose so that it can be shoved to one side when working in tight corners. Equipped with large jaw for basin nuts. Works automatically. No adjustments necessary.

With Large Jaw only.....each \$1.50
With Both Large and Small Jaws.....each 2.00

No. 1178 Imperial Welding Outfits

For garages, service stations and automotive repair shops. Regulators have two gauges; one showing the amount of gas in the cylinder and one showing the working pressure.

Consists of: Type 8X-3 welding torch with 3 welding tips, one each No. 1SC tip for welding fenders and body work, also radiator and battery work; No. 3SC tip for frames and general

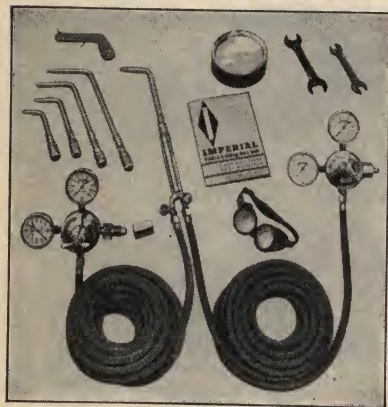
purpose welding; No. 6SC tip for straightening axles, heating and heavier welding; No. 31564 protector caps for each tip; Type KK oxygen regulator with 150-pound gauge showing working pressure and 3000-pound gauge showing cylinder pressure; Type AAA acetylene regulator with 50-pound gauge showing working pressure and 500-pound gauge showing cylinder pressure; *No. 314-H, 12½-foot length heavy duty oxygen hose with connections; *No. 315-H, 12½-foot length heavy duty acetylene hose with connections; No. 91-H welding goggles; No. 279-H Shoot-A-Lite spark lighter; No. 97-H torch wrench; No. 98-H regulator wrench; No. 261-H tank adapter and welding hand book.

No. 1178 Welding Outfit.....each **\$57.00**

No. 1178-C Welding and Cutting Outfit, Same as No. 1178 but with Addition of Type 8X Cutting Attachment.....each **77.00**

No. 326-H Steel Carrying Case, Extra.....**6.00**

*If Imperial Joined Hose is preferred, this can be furnished at no additional cost.

No. 1118 Imperial Welding Outfits

No. 1118

For automotive maintenance and repair work.

Regulators have two gauges; one showing amount of gas in cylinder, and one showing working pressure.

Outfit consists of: Type 8X-5 welding torch with five welding tips (one each Nos. 1SC, 3SC, 5SC, 7SC, and 10SC); No. 31564 protector caps for each tip; Type KK oxygen regulator with 150-pound gauge showing

working pressure and 3,000-pound gauge showing cylinder pressure; Type AAA acetylene regulator with 50-pound gauge showing working pressure and 500-pound gauge showing cylinder pressure; *No. 310-H, 25-foot length heavy duty oxygen hose with connections; *No. 311-H, 25-foot length heavy duty acetylene hose with connections; No. 91-H DeLux welding goggles; No. 279-H Shoot-A-Lite spark lighter; No. 97-H torch wrench; No. 98-H regulator wrench; No. 261-H tank adapter; No. 285-H, 1-pound can Gasweld flux; welding hand book.

No. 1118, Welding Outfit, Ship. Wt. 33 Lb.....each **\$70.75**

No. 1118-C, Welding and Cutting Outfit, Same as No. 1118 but with Addition of Type 8X Cutting Attachment which Cuts Steel or Wrought Iron 6 Inches or

More in Thickness, and Type 2R Copper Cutting Tip, Ship. Wt. 36 Lb.....each **90.75**

No. 326-H, Steel Carrying Case, Ship. Wt., 10 Lb. each **6.00**

*If Imperial Joined Hose is preferred, this can be furnished at no additional cost.

No. 1118-WC Imperial Welding and Cutting Outfits

Does lightest as well as heaviest welding and cuts wrought iron and steel up to 12 inches thick.

Each of the regulators included in this outfit has two gauges; one showing the amount of gas in the cylinder and one showing the working pressure. The cylinder pressure gauge enables operator to reorder gas before supply is exhausted.

Consists of: Type 8X-5 welding torch with 5 welding tips (one each Nos. 1SC, 3SC, 5SC, 7SC and 10SC); No. 31564 protector caps for each tip; Type R cutting torch with 3 cutting tips (one each Nos. 1R, 2R, 3R) and lock nut; Type KK oxygen regulator with 150-pound gauge showing working pressure and 3000-pound gauge showing cylinder pressure; Type AAA acetylene regulator with 50-pound gauge showing working pressure and 500-pound gauge showing cylinder pressure; *No. 310H, 25-foot length heavy duty oxygen hose with connections; *No. 311-H, 25-foot length heavy duty acetylene hose with connections; No. 91-H welding goggles; No. 279-H Shoot-A-Lite spark lighter; No. 97-H torch wrench; No. 98-H torch wrench; No. 261-H tank adapter and welding and cutting hand book.

No. 1118-WC Welding and Cutting Outfit.....each **\$108.75**

No. 326-H Steel Carrying Case, Extra.....**6.00**

*If Imperial Joined Hose is preferred, this can be furnished at no additional cost.

No. 113 Imperial Cutting Outfits

Designed for car wreckers, contractors, boiler shops, structural steel work, etc. where continuous cutting is done.

Cuts wrought iron and steel from ½ to 12 inches or more in thickness.

Regulators have two gauges; one showing the amount of gas in the cylinder and one showing the working pressure.

The cylinder pressure gauge enables the operator to reorder gas before the supply is exhausted.

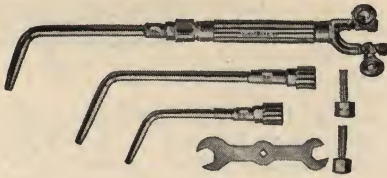
Consists of: Type R cutting torch with three cutting tips (one each Nos. 1R, 2R and 3R) and lock nut; Type HP high pressure oxygen regulator with 400-pound gauge showing cylinder pressure; Type AAA acetylene regulator with 50-pound gauge showing working pressure and 500-pound gauge showing cylinder pressure; *No. 310-H, 25-foot length heavy duty oxygen hose with connections; *No. 311-H, 25-foot length heavy duty acetylene hose with connections; No. 91-H welding goggles; No. 279-H Shoot-A-Lite spark lighter; No. 97-H torch wrench; No. 98-H regulator wrench; No. 261-H tank adapter and cutting hand book.

No. 113 Cutting Outfit.....each **\$87.50**

No. 326-H Steel Carrying Case, Extra.....**6.00**

*If Imperial Joined Hose is preferred, this can be furnished at no additional cost.

Type 8X-3 Imperial Welding Torches

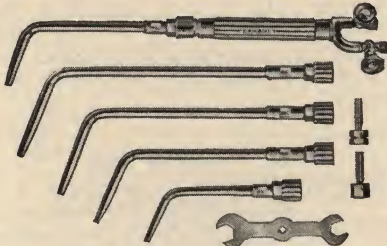


For maintenance work, fender welding, frame straightening, etc. Takes care of all work in the oxy-acetylene process. Torch is made of special alloy bronze.

Furnished complete with three welding tips (one each Nos. 1SC, 3SC, and 6SC), protector cap for each tip, wrench, and two hose connections. Additional tips are available.

Type 8X-3, Complete, Ship. Wt. 4 Lb.....each **\$22.00**
 Type 8X, Welding Torch Handle Only, less Tips, 8 3/4 Inches Long, Ship. Wt. 2 Lb.....each **12.00**

Type 8X-5 Imperial Welding Torches



For general welding work. Takes care of all work in the oxy-acetylene process. Torch is of special alloy bronze.

Furnished complete with five welding tips (one each Nos. 1SC, 3SC, 5SC, 7SC, and 10SC), protector cap for each tip, wrench, and two hose connections.

Type 8X-5, Complete, Ship. Wt. 7 Lb.....each **\$27.50**

Type R Imperial Cutting Torches



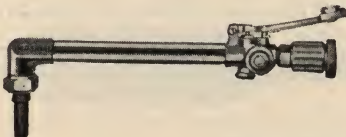
This is an efficient, easily operated one-hand torch. The high-pressure oxygen jet is controlled by a thumb-operated valve. The gases mix in the tip eliminating back-flash. It is easily taken apart, and the seat of the high-pressure valve is easily renewable.

Complete with 3 copper cutting tips, and hose connections. Length, 20 inches.

Weight with tip, 2 pounds 7 ounces.

Type R.....each **\$39.50**

Type 8X Imperial Cutting Attachments

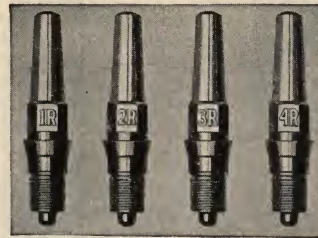


Fits the Type 8X welding torch. Quickly and easily assembled to the handle of the welding torch by removing tip assembly and screwing on attachment. Cuts steel or wrought iron six inches or more in thickness.

One Type 2R copper cutting tip is furnished with this attachment.

Type 8X.....each **\$20.00**

Type R Imperial Cutting Tips



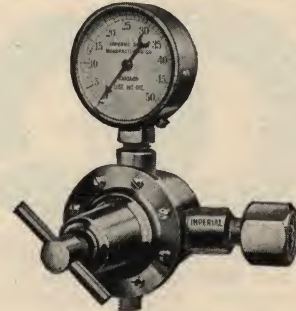
Type R Cutting Tips are made of pure hard drawn copper.

The opening for the cutting jet of oxygen is surrounded by smaller openings for the pre-heating flame, enabling the operator to change the direction of cut without altering the position of the work or the torch.

These tips fit the Type R Imperial cutting torch and Type X Imperial cutting attachment, and are furnished with Imperial outfits Nos. 113, 114, and 115.

Nos. 1R, 2R, 3R and 4R.....each **\$3.00**

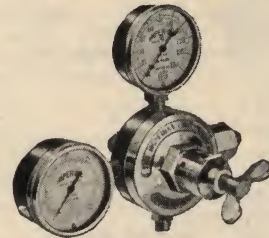
Type D Imperial Oxygen Regulators



Used for light welding, carbon burning and lead burning. Fitted with a 50-pound working pressure gauge.

Type D.....each **\$10.00**

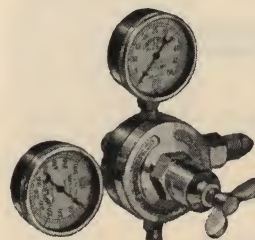
Type KK Imperial Oxygen Regulators



Designed for nearly all welding and most cutting work. For cutting when using up to 100-pounds oxygen pressure. Furnished complete with two pressure gauges, one 150-pound gauge showing working pressure and one 3000-pound gauge showing cylinder pressure.

Type KK Oxygen Regulator.....each **\$20.00**

Type AAA Imperial Acetylene Regulators



This regulator has ample capacity for the largest welding and cutting work.

Furnished complete with two pressure gauges; one 50-pound gauge showing working pressure and one 500-pound gauge showing cylinder pressure.

Tank connection fits Prest-O-Lite WK (300-foot) and WC (100-foot) tanks.

Furnished with adapter to fit air reduction or commercial tanks.

Type AAA Acetylene Regulator.....each **\$17.50**

Imperial Brazing and Soldering Outfits



Adaptable to all kinds of brazing and soldering work. Tank connection fits small auto type acetylene light tank, but outfit can be used on

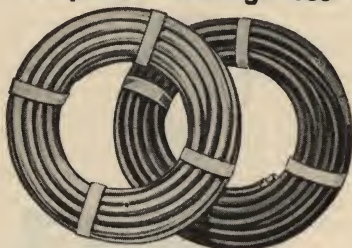
large size cylinders by means of an adapter fitting.

No. 31 consists of Type AO torch, 4 tips (one with long spout for radiator), 6 feet of hose and connections.

No. 30 is the same as No. 31 except it is without the Type J soldering iron. Nut and tail piece is furnished to attach to Prest-O-Lite tank.

No. 31.....each \$7.00
No. 30.....each 4.50

Imperial Welding Hose



Corrugated hose for welding and cutting.

With Connections

No.	Per Length	Color	Type	Length Feet	I.D. In.	Thread On Nut In.
310-H	\$4.50	Green	Oxygen	25	1/4	9/16-18 R.H.
311-H	4.50	Red	Acetylene	25	1/4	9/16-18 L.H.
312-H	2.25	Green	Oxygen	12 1/2	3/16	9/16-18 R.H.
313-H	2.25	Red	Acetylene	12 1/2	3/16	9/16-18 L.H.
314-H	2.50	Green	Oxygen	12 1/2	1/4	9/16-18 R.H.
315-H	2.50	Red	Acetylene	12 1/2	1/4	9/16-18 L.H.
322-H	2.00	Green	Oxygen	12 1/2	1/8	9/16-18 R.H.
323-H	2.00	Red	Acetylene	12 1/2	1/8	9/16-18 L.H.

Without Connections

No.	Per Foot	Color	Type	I.D. In.
304-H	\$.16	Green	Oxygen	1/4
303-H	.16	Red	Acetylene	1/4
306-H	.14	Green	Oxygen	3/16
305-H	.14	Red	Acetylene	3/16

Oxygen Hose Connection.....per set \$.50
Acetylene Hose Connections.....per set .50

Joined Hose

Joined together to form one length. Each end is slotted 24 inches for assembly to torch and regulators.

Inside diameter, 1/4 inch.

No. 307-H, Joined Hose less Connection.....per foot \$.32 1/2
No. 308-H, 12 1/2-Foot Length with Connections.....each 5.00
No. 309-H, 25-Foot Length with Connections.....each 9.00
Hose Connections for Joined Hose.....per set 1.00

Imperial Brass Hose Connections

No. 201-C



For female iron pipe thread, 1/4 inch.

For inside diameter of hose, 3/16, 1/4 and 5/16 inch.

No. 201-C.....each \$.20

No. 209-C



For male iron pipe thread, 1/4 inch.

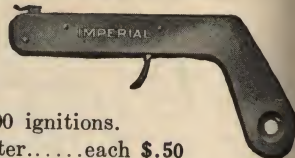
For inside diameter of hose, 1/4, 5/16, 3/8 and 1/2 inch.

No. 209-C.....each \$.14

Imperial Spark Lighters

Offers a convenient method of lighting welding and cutting torches. Each pull of the trigger produces a shower of sparks. Each flint will produce about 5000 ignitions.

Price, No. 279H, Spark Lighter.....each \$.50
Price, No. 280H, Extra Flints.....each .10



Imperial Welding Rods



The following rods are made to a special Imperial formula, and contain elements which assist materially in the production of high grade welds. For welding metal that is 1/4 inch or less in thickness, use welding rod 1/8 inch in diameter; while for welding metal 1/4 to 3/4 inch thick, the 3/16 or 1/4-inch rod should be used.

By using only high grade rods of the proper size and keeping rods in contact with the weld, hard spots and cold shots can be prevented.

No. 7 Norway Iron

Length, 36 inches; diameter 1/16, 3/32, 1/8, 5/32, 3/16, 1/4, 5/16 inch.

No. 3 Nickel Steel

Length, 36 inches; diameter 1/16, 1/8, 3/16, 1/4 inch.

No. 5 Vanadium Steel

Length, 36 inches; diameter, 1/8, 3/16, 1/4 inch.

No. 9 Cast Iron

Length, 18 inches for 1/8-inch diameter; 24 inches; diameter 3/16, 1/4, 5/16, 3/8 inch.

Moly-Nickel Cast Iron

Length, 24 inches; diameter, 3/16, 1/4, 5/16, 3/8 inch.

No. 23 Drawn Aluminum

Length, 36 inches; diameter 1/8, 1/4 inch.

No. 24 Tobin Bronze

Length, 36 inches; diameter 1/16, 1/8, 3/16, 1/4 inch.

No. 1 High Tensile Steel

Length, 36 inches; diameter 1/16, 1/8, 3/16, 1/4 inch.

No. 26 High Carbon Steel

Length, 36 inches; diameter 1/8, 3/16, 1/4 inch.

No. 30 Low Fuming Bronze

Length, 36 inches; diameter, 1/16, 3/32, 1/8, 3/16, 1/4 inch.

Imperial Gasweld Flux



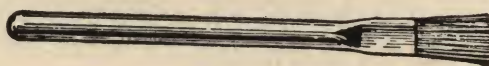
A universal flux that dissolves oxides quickly, releases trapped gases, clears the surface to be worked on, and makes metal flow easily.

For welding bronze and brass, cast iron, malleable iron, steel, monel metal, high carbon steel and hard surfacing materials.

No. 286H, 1/2-Pound Cans.....each \$.80

No. 285H, 1-Pound Cans.....each 1.50

Acid Brushes



Made from best grades of imported China bristle, securely clamped. Length, 6 inches. Packed 1 gross to a box.

No.	1	2	3
Width at Crimp of Hair.....inches	3/8	1/2	5/8
Per Gross.....	\$2.50	3.00	3.50

Kasemit Open Fire Surface-Hardening Compound

Non-Poisonous, Non-Explosive and Non-Inflammable

A rapid compound for surface hardening. May be used with equally good results on all classes of steel, as well as cast, wrought or malleable iron. No special equipment necessary.

Kasemit No. 1

For fine work and very rapid hardening.

Size Container Pounds	Each	Size Container Pounds	Each
1	\$1.20	25	\$25.25
5	5.65	50	49.50
10	10.75		

Kasemit No. 2

For general surface hardening.
5 or 10-Lb. Cans.....per lb. \$.85
Quantities Over 25 Lb....per lb. .80



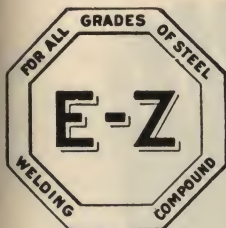
E-Z Welding Compound

E-Z Welding Compound sticks to the metal at a low heat and is equally good for lap, split, V, butt or jump welding.

This compound will weld tool, plow, open-hearth, Bessemer or spring steel, making a strong and smooth weld, at a lower heat than any other compound.

E-Z Compound is used between laps of welds.

1-Pound Boxes.....	per pound	\$.25
5 and 10-Pound Boxes.....	per pound	.18
25 and 50-Pound Boxes.....	per pound	.17
100-Pound Drums.....	per pound	.16 1/2
150-Pound Drums.....	per pound	.16 1/2
300-Pound Half Barrels.....	per pound	.15
600-Pound Barrels.....	per pound	.14 1/2



Allen All-Sol Stainless Steel Soldering Flux

This flux makes the soldering of stainless steel almost as easy as soldering any common metal, yet the joints are strong and permanent.

No special tools are needed. Just brush on the flux and apply solder in the usual manner. The solder takes hold in a tight, smooth, silvery joint.

Used with ordinary solder, or the special Allen Stainless Solder. White Label shipping regulations.

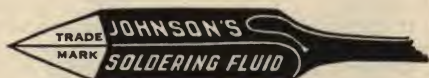
Packed 6 bottles in a package.

1-Pint Bottle.....each \$1.60



Johnson's Soldering Fluid

"IT CAN BE DONE" WITH



(REG. U. S. PAT. OFF.)

Can be used on all metals and their alloys except aluminum. Will not evaporate, injure work, clothing or hands.

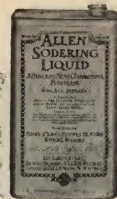
Any grade of solder may be used, also lead, babbitt, pewter, zinc or tin.

3 1/2-Ounce Bottle.....	each	\$1.15
11-Ounce Bottle.....	each	.25
1-Quart.....	each	1.00
1/2-Gallon.....	each	1.75
1-Gallon.....	each	3.00

Allen Soldering Liquid

For all-a-round work, for all metals except aluminum and stainless steel. Standard formula. Non-evaporating. Adaptable to hand, or machine soldering. Excellent for tinning and soldering copper.

Size Can.....	2-Oz.	4-Oz.	1-Qt.	1-Gal.
Per Can.....	\$1.13	.20	.65	2.00
No. per Carton	24	12	3	1



Allen Soldering Paste

A corrosion free, soft form of flux. Underwriters' Approval.

Size Container	Each	No. in Carton
Job Size	\$.08	24
2-Ounce Can	.13	24
4-Ounce Can	.25	24
1/2-Pound Can	.50	12
1-Pound Can	.90	6
5-Pound Can	4.40	1



Allen Soldering Salts

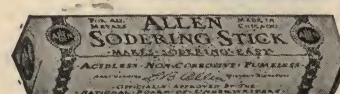
These salts are dry and in concentrated form. To make up a perfect flux of sufficient strength to use on old metal add three parts water to one part salts; on new metal, use even greater dilution.

Size Bottle.....	1/2-Lb.	1-Lb.	5-Lb.
Each.....	\$.40	.59	2.70
No. in Carton.....	12	6	1



Allen Soldering Sticks

An economical rapid flux. Just a touch to the hot metal does the work.



Fuses the solder rapidly without fuss, muss or after corrosion. Size, 1x5 1/4 inches.

Samson Formula.....	each	\$1.15
Standard Formula.....	each	.30

Allen Solid Sal Ammoniac

Speedily cleans and brightens the soldering copper. Outlives fibrous lump many times.

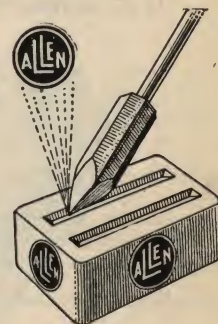
It is six sided, solid and convenient.

Does not crumble, nor corrode metal work or tools on the job.

Put up in individual cartons.

Package quantities are packed in corrugated, tape sealed cartons.

Size.....	pounds	1/4	1/2	1
Each.....		\$.20	\$.35	\$.60
Package Quantity.....		24	12	6



Nokorode Soldering Paste

This paste will flux all metals except aluminum. It takes the place of acid in all soldering jobs. Non-corrosive, safe as resin and rapid as acid. Not affected by heat and does not spatter. The solder will not turn dark after using this paste.



In Cartons

Size Can.....	2-Oz.	1-Lb.
Per Can.....	\$.10	\$.70
Per Carton.....	1.20	4.20
No. Cans in Carton.....	12	6

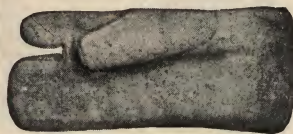
By Pound

Size Can.....	pounds	10	25	50	100
Per Pound.....		\$.50	.45	.43	.40

Imperial Welding and Cutting Gloves



No. 54-H Horsehide



No. 56-H Asbestos

Strong, serviceable gloves to afford ample protection against heat.

No. 54-H is made of the best mineral tanned horsehide.

No. 56-H is made of asbestos cloth with fleece lining, with one finger.

No.	54-H	56-H
Per Pair.....	\$1.75	3.25

Steel Grip Gauntlet Gloves

Steel Reinforced and Sewed



No. 644

Reinforced with steel ribbons over strips of tough leather and closed with steel threads. Extra leather patch on thumb.

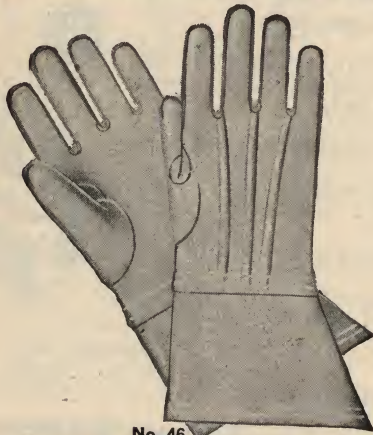
No. 644, Chrome Leather Gauntlet Glove.....per pair \$1.65

No. 604, Same as No. 644, with 2-Inch Band instead of 4-Inch Gauntlet..... per pair 1.50

No. 1044, Same as No. 644 in Grain Leather.....per pair 1.80

No. 1004, Same as No. 604 in Grain Leather.....per pair 1.65

U.S. White Hand-Made Acid Gloves



No. 46

Used in handling alkalis and acids. Reinforcing all parts of gloves at the point of strain or bending produces an acid glove which is a protection from injury.

All seams are heavily rolled, lapped and strapped, then steam-cured under tremendous pressure.

Made in sizes 14 and 15. Packed 6 pairs to a box.

No. 39, Heavy, 9-Inch Gauntlet.....per pair

No. 43, Heavy, 9-Inch Gauntlet, with Reinforced Fingers, Palms and Thumbs.....per pair

No. 46, Heavy, 5-Inch Gauntlet.....per pair

No. 48, Heavy, 5-Inch Gauntlet, with Reinforced Fingers and Thumbs.....per pair

No. 49, Heavy, 5-Inch Gauntlet, with Reinforced Fingers, Palms and Thumbs.....per pair

No. 51, Heavy, Short.....per pair

No. 81, Medium, Short.....per pair

No. 84, Medium, 5-Inch Gauntlet.....per pair

For sizes larger than 15, add 25 cents per pair per size to regular price.

Gloves



Furnished in suitable constructions for all industrial uses.

Made of Canton flannel or jersey in various weights of material, plain colors or striped. Thumbs, fingers, palms and backs reinforced with leather as required. Wrists knit style, strap or gauntlet.

Supplied in dozen or larger lots.

Prices quoted upon receipt of specifications.

U.S. Black Latex Industrial Gloves



No. 1301

Recommended for use in acids, such as sulphuric, chromic, muriatic, caustic, deoxide, also plating solutions such as copper sulphate, nickel sulphate, nickel chlorate, etc.

Shows a maximum resistance in solutions such as nitric acid, carbon tetrachloride, nitric oils, kerosene, gasoline, deoxidine, etc. The lining will not conduct heat as readily as the rubber compound.

A lined glove should not be used when the operator has to handle small objects, but should be used when the operator handles large articles that have a tendency to cause friction, abrasions or cuts.

Nos. 1301, 1302, 1304, 1305, and 1307 packed one pair to a box. Nos. 1351 and 1357 packed 6 pairs to a box. No. 1311 packed 12 pairs to a box. Nos. 1367, 1310 and 100 packed 24 pairs to a box.

No. 1301, Unlined, Medium, 13½ and 14 Inches Long, Sizes 10 and 11.....per pair

No. 1302, Unlined, Heavy, 13½ and 14 Inches Long, Sizes 10 and 11.....per pair

No. 1304, Unlined, Medium, 18 and 18½ Inches Long, Sizes 10 and 11.....per pair

No. 1305, Unlined, Heavy, 18 and 18½ Inches Long, Sizes 10 and 11.....per pair

No. 1307, Unlined, Medium, 11 and 12 Inches Long, Sizes 10 and 11.....per pair

No. 1351, Lined, Med., 12 In. Long, Size 10.....per pair

No. 1357, Lined, Heavy, 15 Inches Long, Sizes 10 and 11.....per pair

No. 1310, Unlined, Light, 10 and 10½ Inches Long, Sizes 7, 7½, 8, 8½, 9, 9½, 10 and 11.....per dozen

No. 1311, Unlined, Medium, 10 and 10½ Inches Long, Sizes 7, 7½, 8, 8½, 9, 9½, 10 and 11.....per dozen

No. 100, Rayon Glove, Unlined, Light, 10 and 10½ In. Long, Sizes 7, 7½, 8, 8½, 9, 9½, 10 and 11.....per doz.

No. 1367, Coated Canvas, 12 In. Long, Size 10.....per doz.

No. 527 Trojan Welders' Goggles



The Trojan Goggle is ideal for all types of acetylene welding. Moulded bakelite cups with special air channels provide added circulation. Exclusive patented feature of baffled vents excludes all foreign particles and outside light. Has large 50-millimeter lenses.

No. 527 with Smoke Green or Brown Amber Lenses.....per pair \$2.25
No. 527 with Essentialite Lenses.....per pair 2.50

No. 510 Fyber-Weld Goggles



Fyber-Weld Goggles offer ideal protection to the welder.

They are made entirely of vulcanized fibre, and the cups are so slotted as to permit proper ventilation without allowing sparks or light to enter. Adjustable

elastic headbands and leather nose bridge.

All parts and lenses are interchangeable without the use of tools.

No. 510, with Essentialite Welding Lenses...per pair \$2.35
No. 510, with Smoke Green or Amber Lenses...per pair 2.10

No. 220 Cesco Wide Vision Goggles

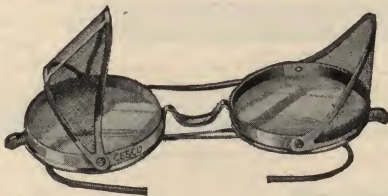


An all-purpose industrial goggle offering an exceptional wide range of vision and perfect comfort to the wearer.

Lenses are interchangeable and headbands adjustable.

No. 220 with Cesco Hardened Lenses.....per pair \$2.25
No. 220 with Light Weight Clear Lenses. .per pair 1.05

No. 166 Kraftguard Goggles



A grinder's and chipper's goggle that has always been popular with industrial workers because of its all-around utility and serviceability. Made of non-corrosive, all-white metal with reinforcing bar. Reinforced wire screen side shields provide maximum protection and ventilation.

Lenses are standard size, 45.8 mm.

No. 166, with Clear Industrial Lenses.....per pair \$1.45
No. 166, with Cesco Hardened Lenses.....per pair 1.80

No. 1000 Industrial Goggles



A light weight goggle designed for use on operations where a heavier type would be unnecessary.

Frame is made of white metal, non-rusting and easily sterilized. The side screens are perforated and may be folded when not in use.

This goggle may also be had for stone cutters use, without side shields but with heavy clear lenses.

No. 1000, with regular Clear Lenses.....per pair \$5.00
No. 1000, with Heavy Clear, Amber or Smoke Lenses.....per pair .55

No. 101 Rubber Chemists' Goggles



A goggle intended for protection against chemical fumes and splashing solutions. Used by chemists and those working with powder, paints and acids. The frame is made of moulded live rubber which insures positive face fitting.

No. 101, with Clear Lenses.....per pair \$1.05
No. 101, with Non-Shattering Lenses.....per pair 1.70

No. 72 Industrial Respirators



Made of white rubber and adaptable to many dusty jobs where nose, mouth, throat and lung protection is necessary.

The body of the respirator is large and allows ample breathing space. All exhaled air passes through a relief valve located at top of mask.

Headbands are adjustable.

With sponge filter.

No. 72.....each \$1.35

No. 4 Cover's Dupor Twin Filter Respirators



For use in dusts, light fumes, and paint sprays free from harmful gases.

Bulb exhalation valve has almost no resistance in breathing. It is double and check valves to the filter chambers are not needed.

Has clear entrance filter aperture of 7½ sq. in.

Weight, 4 ounces.

No. 4, Respirator Only...per dozen \$18.00

Extra Felt Filter Pads, ⅝ Inch Thick.....each .05

Extra Face Cloths.....each .08

No. 153 Cast Iron Melting Pots

For Lead, Solder or Babbitt



O. D. In.	Each	Outside Height In.	CAPACITY Liquid Qtz.	Lead Lbs.	Wt. Lbs.
4	\$.40	3	$\frac{3}{8}$	8 $\frac{1}{2}$	1 $\frac{1}{2}$
5	.44	3 $\frac{3}{8}$	$\frac{3}{4}$	16	2 $\frac{1}{2}$
6	.70	4	1	24	3 $\frac{1}{2}$
7	1.04	4 $\frac{3}{8}$	2	40	5
8	1.32	5	3	70	8
9	1.90	6	4	90	14
10	2.20	6 $\frac{1}{2}$	5	120	16
12	3.70	6 $\frac{1}{2}$	8	200	30
13 $\frac{1}{2}$	4.80	6 $\frac{3}{4}$	10	240	32
15	10.80	10	18	400	60
18	30.00	14	37	900	120

All sizes from 4 to 10-inch diameter are made without lips as shown. Sizes 12 to 18 inches inclusive have a pouring lip on one side and a lifting lug on the other side.

No. 373 Wrought Ladles



Steel bowls, handles welded on.

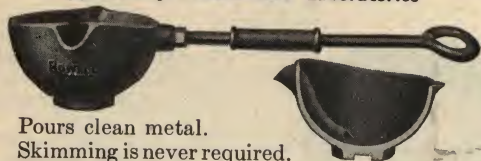
Single or double lipped as ordered. Price the same for either style.

Regular					Extra Heavy				
Size In.	Per Dozen	Capacity Liquid Pts.	Lead Lbs.	Wt., Lbs. per Dozen	Size In.	Per Dozen	Capacity Liquid Pts.	Lead Lbs.	Wt., Lbs. per Dozen
2 $\frac{1}{2}$	\$5.50	*1 $\frac{1}{2}$	1 $\frac{1}{4}$	6 $\frac{1}{2}$	6	\$20.00	1 $\frac{1}{4}$	14 $\frac{1}{4}$	49
3	7.00	*2 $\frac{3}{4}$	2 $\frac{1}{4}$	8	7	24.00	1 $\frac{3}{8}$	21	88
3 $\frac{1}{2}$	8.00	†1	3	11 $\frac{1}{2}$	8	30.00	2 $\frac{1}{2}$	27 $\frac{1}{2}$	95
4	9.50	†1 $\frac{1}{4}$	4 $\frac{1}{4}$	13	9	40.00	3 $\frac{1}{2}$	40	126
5	13.00	†2 $\frac{3}{8}$	10 $\frac{1}{4}$	31	10	48.00	5	50	150
6	16.00	†1 $\frac{1}{4}$	14 $\frac{1}{4}$	37					

*Ounces. †Gills.

Rowell Bottom Pour Melting Ladles

Approved by Underwriters' Laboratories



Pours clean metal.

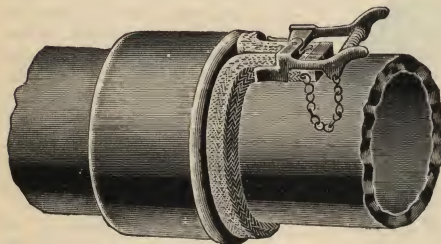
Skimming is never required.

Sliding sleeve furnished on all sizes except 3-inch.

Diam. in.	3	4	5	6	7	8	*9	*10
Ladle...ea.	\$2.10	\$2.40	\$2.70	\$3.60	\$3.90	\$4.20	\$5.10	\$6.00
Bowl...ea.	1.38	1.68	2.34	2.64	2.94	3.78	4.68	
Handle ea.	.66	.66	.90	.90	.90	.96	.96	
Depth...in.	2 $\frac{1}{4}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	5	5 $\frac{1}{4}$
Cap. Lead lb.	4	4 $\frac{1}{2}$	9	18	25	40	60	90
Cap. Water pt.	$\frac{3}{8}$	$\frac{1}{2}$	1	2	3	4	7	9

*Can be furnished with two handles at an additional cost of \$1.30.

No. 429 Improved Asbestos Lead Joint Runners



A time saver and sure joint maker for plumbers, water and gas companies. Red hot lead does not affect it. Made of solid asbestos.

Size No.	1	2	3	4
No. 429...each	\$2.50	3.00	4.50	6.00
Square...inches	$\frac{3}{4}$	$\frac{3}{4}$	1	1
For Pipe...inches	2,3,4	4,5,6	6,8,10	10,12,14
Weight...pounds	$\frac{1}{2}$	$\frac{3}{4}$	2 $\frac{1}{4}$	2 $\frac{3}{4}$

Eagle Dreadnaught Bearing Metal



The most durable bearing metal made. For bearings subject to extreme speed and pressure conditions, pounds, shocks and vibrations; bearings of high powered generators, motors, turbines, Diesel engines, oil, gas and gasoline engines, pumps, air compressors, etc.

Possesses the highest load carrying capacity, and its great toughness enables it to resist heavy pounding without cracking or distortion. Being exceedingly free pouring with but slight shrinkage, it is the ideal alloy for thin bearings. Pours and machines easily and will stand peening.

Tensile strength, 13,050 pounds per square inch; compressive strength, 22,000 pounds per square inch; Brinell hardness, 29.1; melts at 463°F., pouring temperature, 800°F.; specific gravity, 7.35. Prices upon application.

Eagle Outlasta Bearing Metal



A hard, tough and dense anti-friction babbitt for general mill and factory, oil well, cement and brick plant machinery or for farm equipment. A general service alloy; pours easily and gives a clean uniform bearing.

Tensile strength, 8200 pounds per square inch; compressive strength, 18,100 pounds per square inch; Brinell hardness, 24.9; melts at 464°F.; pouring temperature, 625°F.; specific gravity, 9.42.

Prices upon application.

Magnolia Anti-Friction Metal



A graphite-treated anti-friction metal. By U. S. Government test, it is anti-frictionally 300% superior to genuine babbitt.

Has withstood 16,980 pounds to square inch under controlled test. Lowest known co-efficient of friction, .001459 with water lubrication. Suggested pouring range between 825° and 900° F. Brinell 21.8.

Recommended for all steady high speed and heavy pressure including motors from 10 to 250 h.p. Not recommended for connecting rod bearings.

Packed in 28, 56, and 112-pound boxes.

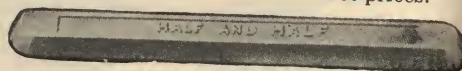
Prices upon application.

Bar Tin and Half and Half Solder



Bar Tin

Prices for half and half solder at market prices.



Half and Half Solder

Prices for bar tin at market prices.



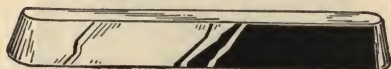
Wire Solder

For high-grade work on tin plate, galvanized iron or sheet copper. It flows freely and evenly.

Put up on spools of approximate 1, 5, 10, 25 and 50 pounds each.

Prices upon application.

Allen Stainless Steel Solder



No. 1 Neverdull

Recommended for use with all work in which appearance, uniformity, and an unbroken high luster is required. Neverdull matches the high finish of stainless steel, and has proven a favorite because it will not dull. Comes in wire form only.

No. 2 Extra Strong

This grade is fine for most work. It gives a splendid, strong joint or seam on all stainless steels. Comes in bar form only.

Prices upon application.

Silver Solder

This solder is used for band saws or any article of steel, iron or brass requiring a thin solder.

Width, $\frac{3}{4}$ inch.

Put up in 1-ounce coils.

Price..... per ounce \$2.00

Aluminum Solder

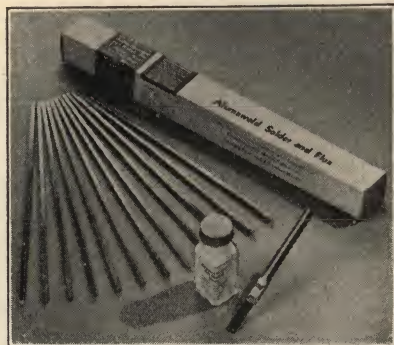


No flux is used with this solder.

Furnished in strips and packed in 1-pound boxes.

Per Pound.....

Alumaweld All Metal Solder and Flux



A high tensile strength solder used for all types of aluminum and aluminum alloys. Makes possible the soldering of any other metal to aluminum; such as cast iron or white metal.

Solders at 500°F. or about the same heat as required for other solders. Applied with welding torch, blow torch or soldering iron.

Packed in kits containing the right proportion of flux to the solder rods, a flux brush, a wire scratch brush, an abrasive, and complete directions for soldering all metals.

Shop Kit, with 180 Inches of Solder.....each \$5.00

Mechanics' Kit, with 120 Inches of Solder.....each 3.50

Service Kit, with 45 Inches of Solder.....each 1.75

*Handy Kit, with 20 Inches of Solder.....each .90

*Wire brush not included.

Bulk Solder

Rods are $\frac{3}{16}$ -inch square and run 13 rods to the pound.

Per Pound..... \$2.00

Bulk Flux

Size Bottle.....pounds	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{2}$	1
Each.....	\$1.00	1.50	2.50	4.50

Kester Plastic Rosin-Filled Solder

For Electrical and Radio Work



Its plastic rosin flux is non-corrosive and electrically non-conductive.

The flux flows, as the solder melts, in just the right amounts for a perfect soldering job.

Requires only heat.

Standard size, $\frac{3}{32}$ inch, about 50 feet to the pound.

Size Spool.....pounds	1	5	20
Each.....			

Kester Acid-Filled Solder

For General Soldering



Easy to use, saves time, and is dependable for a permanent bond.

Contains a scientifically prepared flux that flows in just the right proportions as the solder melts. Requires only heat.

Standard size, $\frac{1}{8}$ inch, about 25 feet to the pound.

1-Pound Carton.....each	.....
1-Pound Spool.....each	.....
5-Pound Spool.....each	.....
20-Pound Spool.....each	.....

Sheet Lead



Thickness.....in.	$\frac{1}{64}$	$\frac{1}{32}$	$\frac{3}{64}$	$\frac{1}{25}$	$\frac{1}{16}$	$\frac{1}{14}$	$\frac{1}{12}$	$\frac{1}{8}$
Wt. Sq. Ft....lbs.	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	4	5	6	8

Market prices.

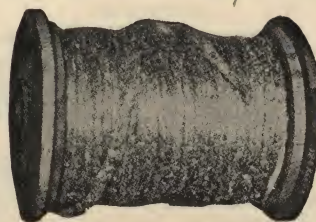
Pig Lead



Pigs weigh about 100 pounds.

Prices upon application.

Lead Wool



Lead wool is used in making caulked joints on cast iron pipe and in gas and water service.

Made of lead in the form of a loosely twisted rope $\frac{5}{8}$ inch in diameter.

Packed in 50-pound bags on mandrel, about 125 feet of rope, or on 100-pound reels, about 250 feet of rope.

Prices upon application.

Electric Brand Forged Soldering Coppers

Pointed and Flat Types



Pointed Type



Flat Type

Description		Extra Over Base Price, per Pound	Base
3 Pounds per Pair and Heavier.....			
2½ " " "			\$.01
2 " " " .....			.02
1½ " " " .....			.03
1 Pound " " " .....			.06
¾ " " " .....			.12
½ " " " .....			.20

Soldering Copper Handles



Soft wood and wired. Size about 1¼x5½ inches.
Per Gross.....

Kaalot Fibre Soldering Copper Handles



Cannot split, burn, or become loose.

5½x1¾ in. 4 gross in bbl.; wt., 150 lbs.

Description	Dozen	Gross
No. 1, Ferrule Inserted, ⅝-In. Hole.....	\$1.68	\$20.10
No. 2, No Ferrule, ⅝-In. Hole.....	1.68	20.10
No. 3, Ferrule Inserted, ⅝-In. Hole.....	1.85	22.10

Imperial Gas Blow Torches

For Soldering, Preheating and Brazing

This torch is for use with illuminating gas and compressed air. It is efficient and economical for pre-heating small work.



Nos. R-0 and R-1 are used for soldering radiators and all four sizes are used in machine and repair shops for heating and annealing tools, for hardening and brazing of numerous articles.

Torch No.	R-0	R-1	R-2	R-3
Each.....	\$2.50	2.75	3.50	4.50
I.D. of Air Nozzle.....in.	⅝	⅞	1¼	9/32
I.D. of Gas Nozzle.....in.	1/4	2/64	23/64	29/32
O.D. of Tubing at Hose End...in.	5/16	3/8	9/16	5/8

Mercury Electric Soldering Irons



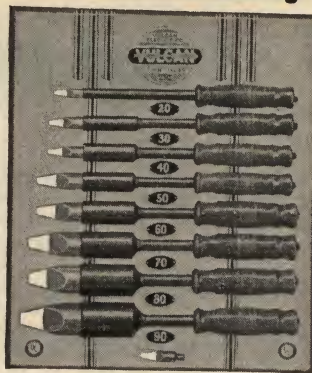
Exceptionally efficient for light and medium work. Intended for intermittent duty. Pure hard forged copper tips are removable. Elements are replaceable.

Handle is cool, adjustable and comfortably shaped. Each iron is equipped with a 6-foot cord and plug cap.

Made to operate on either a.c. or d.c., 110 to 120 volts. Listed by the Underwriters' Laboratories.

No.	1	2	3
Complete.....each	\$1.50	\$2.75	\$3.85
Tip Only.....each	.40	.70	.90
Heating Element Only.....each	.70	1.60	2.25
Watts.....	50	80	140
Tip Diameter.....inches	½	11/16	1
Weight.....ounces	8	11	18

Vulcan Electric Soldering Irons



Display Board

These electric soldering irons are approved by Underwriters' Laboratories. Can be connected to any lighting socket and will operate with identical results on either a.c. or d.c.

They are wound for standard voltages as follows: 110-120, 220-240 volts. An extra charge of \$1.00 net is made for special voltages. Specify voltage when ordering.

Each iron is equipped with a patented, ventilated, adjustable handle, by which it can be lengthened or shortened, and a 6-foot approved heater cord and attachment plug cap.

No. 10 and No. 20

For finest instruments, smallest fuses, light telephone repairs, radio, and all very light soldering.

No. 20 is recommended for industrial use.

No.	Comp. Each	Extra Tip Each	Heat-ing Head Each	Handle Each	Cord and Plug Each	Equal to Old Style Copper Lb. Watts per Pair	Diam. Tip In.	Wt. Oz.
*10	\$3.75	\$.30	\$2.30	\$.40	\$.65	44 1	7/16	10
20	5.00	.30	3.55	.40	.65	50 1	7/16	10

*No. 10 made only in 110-120 volts.

No. 30

For radio and home use, fuses, instruments, inspectors' or linemen's tool kits, etc.

30	\$6.25	\$.40	\$4.70	\$.40	\$.65	60 1½	½	12
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No. 40

For telephone switchboards, electrical instruments, light manufacturing, fuses and radio. High speed tool.

40	\$7.00	\$.40	\$5.45	\$.40	\$.65	90 2½	½	14
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No. 50

For fast telephone work, art glass, light automobile repairs, light tinware and general home use.

50	\$8.00	\$.65	\$6.20	\$.40	\$.65	130 3½	7/8	18
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No. 60

For light automobile repairs, light tinware, general utility and home use.

60	\$9.25	\$.90	\$6.95	\$.65	\$.65	175 4½	1	22
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No. 70

For medium tinware, general manufacturing, metal patterns and automobile work.

70	\$10.75	\$1.20	\$8.15	\$.65	\$.65	220 6	1½	28
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No. 80

For heavy tinware, sheet steel work, metal boat making, refrigerator work and automobile radiator work.

80	\$12.50	\$1.60	\$9.50	\$.65	\$.65	310 7½	1¾	38
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No. 90

For heavy sheet metal work, large patterns and all heavy soldering.

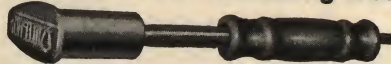
90	\$14.50	\$2.10	\$11.00	\$.65	\$.65	430 10	1⅝	50
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No. 900

For exceptionally heavy soldering.

900	\$25.00	\$4.20	\$19.50	\$.65	\$.65	700 15	1¾	84
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Vulcan Electric Branding Irons



Permanent identity, quickly, economically, and indelibly. Protects property against loss.

Send sketches of desired imprints for estimate.

Prices upon application.

No. 600A C & L Blow Torches
1-Quart Capacity—For Gasoline



Designed for the occasional user who wants a torch to use on odd jobs under ordinary weather conditions.

Tank is highly finished buffed brass with concave bottom fitted with a brass filler plug. Control valve wheel is made of a heat resisting composition.

Pump is quick-acting, with the lock down feature for the pump plunger. Leaks are prevented by the patented interlocking fittings.

Shipping weight, 4¾ pounds.

No. 600A.....each \$5.10

No. 144A C & L Blow Torches

1-Quart Capacity

For Gasoline



For the mechanic who uses a blow torch occasionally.

The self-cleaning burner is supplied with non-enlargeable orifice and cleaner tip on control needle.

Produces an excellent flame.

The pump is quick-acting having the T-handle and the lock-down feature for the pump plunger.

Shipping weight 4¾ pounds.

No. 144A.....each \$7.10

No. 325 C & L Multi-Flame Torches

1-Quart Capacity

For Gasoline



The No. 325 Heavy Duty Torch has an extra powerful burner that produces a strong blue blast flame of remarkable volume and great heat intensity. Full flame control for heavy or light work. It will burn in any position.

Although this torch is regularly supplied for burning gasoline, by changing the burner jet, kerosene can be burned successfully.

Shipping weight, 5¾ pounds.

No. 325.....each \$11.10

C & L Blow Torches

No. 32A, 1-Quart Capacity

No. 238, 1-Pint Capacity

For Gasoline



Performs perfectly either indoors or outdoors under severe weather conditions. Powerful burner of improved construction is fitted with wind shield and has self-cleaning, non-enlargeable gas orifice.

The quart size burner produces an intensely hot blue blast 7 inches long which may be regulated for lighter work. Pint size burner is smaller.

No.	32A	238
Each.....	\$9.10	7.10
Capacity.....	1 Qt.	1 Pt.
Ship. Wt.....lbs.	5	4¼

No. 100 Pumpless Safety Blow Torches

For Gasoline—2-Ounce Capacity

Brass tank with welded bottom is tested to withstand 20 times the pressure it is possible to generate. Only one opening and that is a machined fit. No packing glands or leather washers to wear out.

The main orifice is self-cleaned. When closed, the needle valve goes completely through the opening and removes any foreign matter that might possibly have entered the orifice.

Produces a constant flame of 2400°F. that can be regulated from a pin point to 6 inches long, free of soot and carbon monoxide.

Packed in 100-pound test boxes, rom 1 to 24 units.

Shipping weight, 1¼ pounds.

No. 100.....each \$3.95

Accessories

No. 100A Soldering Coppers

Converts No. 100 into an ideal tool for all types of soldering. Regulate the flame to any desired temperature and the self-tinning copper is kept at even heat at all times for continuous work.

No. 100A.....each \$.50



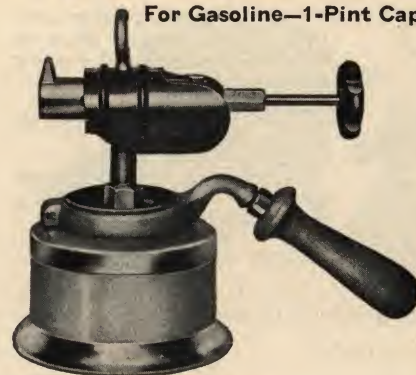
No. 100B Non-Spill Dip Pot

Soldering connections are rapidly made with perfect safety. The pot is hinged and always remains vertical whether the torch is pointed up or down. As the pot is always in the flame, the solder remains hot at all times.

No. 100B.....each \$.75

No. 200 Pumpless Safety Blow Torches

For Gasoline—1-Pint Capacity



Delivers a large clean flame 7 inches long or a small pointed flame 1 inch long.

Produces a constant flame of 2400°F.

Heavy brass tank, with welded—not soldered—bottom and heavy stay bolt for extra strength.

Packed in 100-pound test boxes, from 1 to 24 units.

Shipping weight, 4 pounds.

No. 200.....each \$8.50

Accessories

No. 200C Soldering Coppers

Converts No. 200 torch into an efficient tool for continuous work. The constant flame and heat delivered facilitates rapid operation. Made of special alloy, this copper needs tinning just once.

No. 200C.....each \$2.45

No. 200B Heating Pan

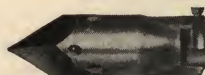
Fastens over flame spreader to heat rivets or materials to be forged.

No. 200B.....each \$1.00

No. 200A Flame Spreader

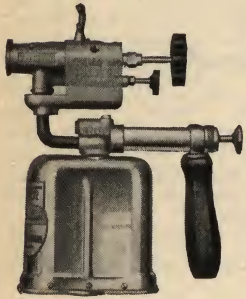
For removing paint or heating wider areas than is possible with regular flame. Made of solid bronze. The spreader hooks over end of nozzle.

No. 200A.....each \$1.45



No. 52A Turner Master Blotorches

For Gasoline—Capacity, 1 Pint



Flat type, one-piece polished brass tank. For carrying in tool boxes, etc. Automatic safety valve and pistol grip. Super burner equipped with air syphoning tube and windshield. Removable wire cleaning needle and orifice block easily replaced after long wear. Lower valve for filling drip cup. Cool composition valve wheels.

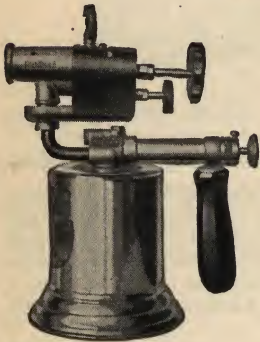
Shipping weight 5½ pounds.

No. 52A..... each \$10.10

No. 45A Turner Master Blotorches

1-Quart Capacity

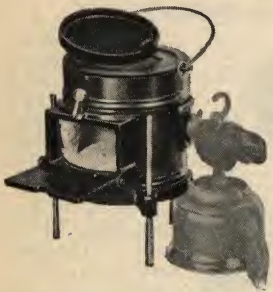
For Gasoline



Super-torch for professional users. Develops large blue flame and operates perfectly in any weather. Wire cleaning needle and orifice block easily replaced. Perfect combustion obtained from adjustable air syphoning tube. Cool composition valve wheels. Drip cup conveniently filled thru lower priming valve. Safety valve air release. Pistol grip handle. Highly polished brass tank; sturdy trouble-free pump.

Shipping weight, 5½ pounds.

No. 45A.....each \$10.10

Utility Blow Torch Furnaces

Used for heat treating steel parts, sand drawing steel to color and temper, and heating soldering coppers.

Upper grid useful for babbitt ladle or lead pot.

Heavy sheet steel body with special molded fire clay lining ¾ inch thick.

Inside diameter, 4x4 inches.

Special heat resisting door with ball latch. Legs adjustable to regulate height of furnace.

Shipping weight, 16 pounds.

Each..... \$13.45

C & L Coil Fire Pots

1-Gallon Capacity

No. 22A, Pump Type—No. 12A, Bulb Type

For Gasoline



No. 22A

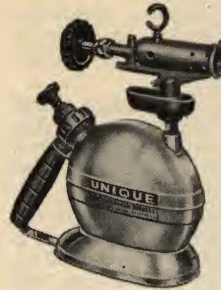
The drawn steel tank is leak-proof and heavily coated with tin inside and out. This prevents rust that works up into the coil and burner. Improved quick detachable coil unit and hinged door coil cup make it easy to clean and repair. Pump is extra large and powerful, producing air pressure quickly. Uprights and fittings are extra heavy.

No. 12A is exactly like No. 22A but fitted with air valve and bulb.

No.....	22A	12A
Each.....	\$13.30	13.20
Capacity.....	1 Gal.	1 Gal.
Ship. Wt.....lbs.	13¾	13½

No. 0 Unique Gasoline Blow Torches

1-Pint Capacity



A compact torch for the tool kit, for use in places hard to get at. Produces an intense heat of 1850° F. plus. Burns in any position. Fine flame control. Closing fuel valve forces the steel cleaning needle through orifice, clearing it of foreign particles. The needle, threaded orifice block and all other parts are replaceable. Channels fitted with removable threaded plugs for cleaning.

Steel tank, brazed fittings, and welded construction for safety. Filled through large combination filler and easy pump opening. Oval tank is 2⅝ inches through center; 5-inch circle. Size flame, 1x6 inches. Weight, 3 pounds.

No. 0..... each \$5.00

No. 1 Unique Gasoline Blow Torches

1-Quart Capacity



A fine torch at a popular price. Widely used by mechanics. Quick starting; it produces an intense heat of 1850° F. plus. Burns in any position. Fine flame control. Closing fuel valve forces steel cleaning needle through the orifice, clearing it of foreign particles. Cleaning needle, orifice block and all parts replaceable at small cost. Channels are fitted with removable threaded plugs for cleaning.

Steel tank, powerful pump, brazed fittings, and welded bottom for safety. Filled through bottom funnel filler or through easy pump opening. Size flame, 1x6 inches. Weight, 3¾ pounds.

No. 1.....each \$5.66

Unique Gasoline and Kerosene Blow Torches

No. 7

No. 3

No. 2

For heavy duty hard service under severe weather conditions. Quick starting rugged torch with steel tank, brazed fittings, and welded bottom for strength and maximum safety. Burns in any position. Used extensively by public utilities, railroads, municipalities, automobile service stations and for marine use. The long horizontal generating veins placed parallel with and directly under the flame insure complete and thorough vaporization of the fuel producing a forceful blue flame of 2000° F. Flame lends itself to wide adjustment and may be throttled down fine. Closing the fuel supply valve forces the steel cleaning needle through orifice, clearing it of foreign particles. Replaceable cleaning needle and orifice block. Removable channel plugs for cleaning. Filled through bottom funnel filler or easy pump opening.

Gasoline torches shipped unless kerosene is specified.

No.	Kerosene Each	Gasoline Each	Capacity	Flame In.	Weight Lbs.
2	.....	\$8.00	1 Pint	6x1¼	3½
*3	\$13.33	9.07	1 Quart	7x1¼	4
7	18.50	13.00	2 Quarts	10x1¾	5½

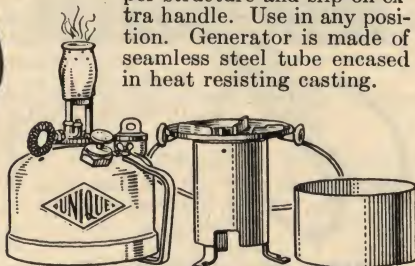
*Flame 10x1¾ inches can be furnished at \$2.00 list extra.

Unique Combination Blowtorch & Furnace

1-Gal. Capacity



Melts 20 lbs. solder in 7 min.; 40 lbs. in 10 min. Flame finely controlled, 2 to 10 in. long. Operates 4 to 6 hrs. on 1 gal. Five seconds to convert to heavy duty torch for melting lead from soil pipe and thawing. Loosen 3 wing nuts, lift off upper structure and slip on extra handle. Use in any position. Generator is made of seamless steel tube encased in heat resisting casting.



The threaded steel orifice block and all parts readily accessible for cleaning and replacement. No special tools required. Heavy steel tank, bottom welded, fittings brazed, shock ring, filler funnel and dust cap. Burns gasoline. The 6-in. windshield locks to top plate. Dimen., 8x12½ in. Wt., 12 lbs.

No. 43, for 4, 5, and 6-Inch Solder Pots..... each \$11.00
No. 43-A, for 6, 7, and 8-Inch Solder Pots..... each 12.24

No. 51 Unique Gasoline Silent Furnaces

Capacity, 1-Gallon



For soldering irons and pot; indoor or outdoor use. Strong blue flame. Quick starting, noiseless, smokeless, clean and odorless. Flame controlled as effectively as city gas. For fast heating of solder coppers up to 8 lb. per pr., and melting 15 lb. solder in 12 min. Operates 6 to 8 hr. on 1 gal. Closing fuel valve forces steel cleaning needle through orifice, clearing it. Orifice block and needle replaceable. Steel tank, welded bottom and brazed fittings. Ht., 12 in.; diam., 8 in. Wt., 14 lb.



No. 51.....ea. \$13.96
Solder Pot.....ea. .80

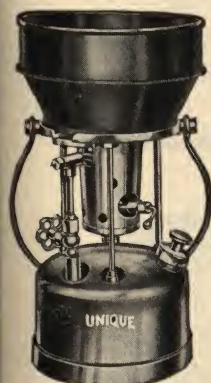
Unique Kerosene and Gasoline Furnaces

Public Utility Fast Heating Heavy-Duty Furnace

Capacity 1-Gallon

Melts 50 pounds of solder in 10 minutes; reduced flame holds metal temperature just right. Figure 8 generator produces a large volume of flame which consumes practically all carbon.

Orifice is cleared of foreign particles by turning flame valve handle while furnace is burning. Entire generator removed through top plate gate without dismantling furnace. Coil housing has sliding shield to regulate air—when closed, furnace is completely windproof.



No. 55



Figure 8
Generator and
Orifice Scraper

Heavy gage steel tank; fittings and bottom hand welded; steel shock ring protects weld from wear and injury. Has powerful pump, filler plug with lead gasket and regulating valve with union. Rugged 7-inch top plate and reinforced pot-shaped shield for 6, 7, and 8-inch pots. Furnace size, 8x13 inches. Weight, 13 pounds.

No. 55-I, For Kerosene..... each \$18.13
No. 53-I, For Gasoline..... each 18.13

No. 9 Johnson Laboratory Burners



Straight



On Angle

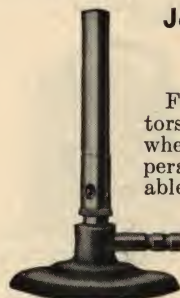
For any laboratory work where heat is required. Furnished either in the straight torch or the burner mounted on an angle. The burner is standard, No. 19-C, equipped with base.

Height, 8½ inches. Diameter of base, 4½ inches. Gas consumption, 7500 b.t.u. per hour.

No. 9.....each \$3.00

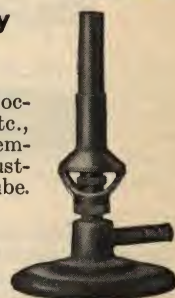
Johnson Laboratory Bunsen Burners

For any laboratory use, doctors, dentists, students, etc., where a small, high flame temperature is required. Adjustable gas orifices and burner tube.



No. 10

Finished in all nickel whitened finish with hose connection.



No. 4, Junior

Height 5 inches.

No.....	10	4 Jr.
Each.....	\$1.25	2.00
Diameter Base.....	inches 3	4
Gas Consumed per Hour.....	b.t.u. 5000	6000

No. 1 Johnson Bench Furnaces



A small size furnace for heating soldering coppers up to six pounds per pair, heat-treating small tools, chisels, reamers, drills, dies, etc.

Length, 12 inches. Weight, 12 pounds. Firepot opening, 3½x2½ inches.

Has pilot light.

Gas consumption, 13,000 B. T. U. per hr.

No. 1.....each \$10.00

No. 111 Johnson Automatic Soldering Furnaces



Equipped with two powerful Johnson Atmospheric Bunsen Burners with automatic valves. The handles of the soldering coppers pressing down on the levers, automatically turn the gas on and off.

Fire box is lined with a refractory lining. Will handle a

pair of 10 to 12-pound soldering coppers. Length, 14 inches; opening, 4½x2¾ inches. Gas consumption, 13,000 Btu's per hour per burner. Weight, 18 pounds.

No. 111.....each \$15.00

Wiss Regular Tinner's Snips

A piece of the finest crucible bar steel is welded to the inside edge of the blades. This gives the Wiss Snip its perfect cutting edge—an edge that

will not break or chew the work and is always sharp.

The blades are perfectly shaped, with points made strong and the handles formed so that they will not tire the hand.

Nos. 11, 12 and 13 packed 6 in a box; all others, 1.

No.	Each	Full Length Inches	Length Cut Inches	Wt. Lb. Each	No.	Each	Full Length Inches	Length Cut Inches	Wt. Lb. Each
13	\$1.30	7	2	$\frac{3}{8}$	9	\$2.50	12 $\frac{1}{2}$	3	2
12	1.55	8	2	$\frac{1}{2}$	8	3.00	13 $\frac{3}{4}$	3 $\frac{1}{2}$	2 $\frac{1}{2}$
11	1.80	9 $\frac{1}{2}$	2 $\frac{1}{4}$	$\frac{3}{4}$	7	3.50	14 $\frac{1}{2}$	4	3
10	2.35	11 $\frac{1}{2}$	2 $\frac{1}{2}$	1 $\frac{1}{2}$	6 $\frac{1}{2}$	4.00	15 $\frac{3}{4}$	4 $\frac{1}{2}$	3 $\frac{7}{8}$

Wiss Combination Tinner's Snips

These snips will cut curved as well as straight work. Frame is forged from a tough, special forging steel under a powerful hammer.

Handles can be hammered, bent and twisted without breaking.

No.	100	19	18	17
Each.	\$2.50	2.75	3.30	3.80
Full Length.	inches 11 $\frac{1}{2}$	12 $\frac{1}{2}$	13 $\frac{1}{2}$	14 $\frac{1}{2}$
Length of Cut.	inches 2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4
Weight.	pounds 1 $\frac{3}{8}$	1 $\frac{7}{8}$	2 $\frac{3}{8}$	2 $\frac{7}{8}$

Wiss Curved Blade Tinner's Snips

A piece of fine crucible bar steel is welded to inside edge of blades, giving sharp, durable edge. Blades are well shaped with strong points. Handles are formed so that they will not tire the hand. No. 11CB packed 4 in a box; others, 1.

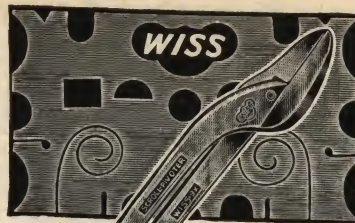
No.	11CB	10CB	9CB	8CB	7CB	6 $\frac{1}{2}$ CB
Each.	\$2.75	3.50	3.85	4.40	5.20	5.90
Full Length.	9 $\frac{1}{2}$	11 $\frac{1}{2}$	12 $\frac{1}{2}$	13 $\frac{3}{4}$	14 $\frac{1}{2}$	15 $\frac{3}{4}$
Length Cut.	in. 2 $\frac{1}{4}$	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$
Weight, Each..lb.	$\frac{3}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	3 $\frac{7}{8}$

Wiss Bulldog Snips

For cutting tough alloys such as monel metal stainless steel, etc. Also for cutting strap iron bands, etc.

Precision ground inlaid steel blades. Short powerful jaws and long leverage.

Length Over All.	inches 14	17
Each.	\$4.50	\$5.00
Weight Each.	pounds 3 $\frac{1}{4}$	3 $\frac{7}{8}$

**Wiss 9X Scroll Pivoter Snips**

The pivoting principle of this snip enables it to cut intricate shapes with ease. Will cut ordinary galvanized sheets up to 18 gage and monel metal sheets of average thickness.

The blades lie flat exactly opposite from the ordinary cutting blade.

Length, 12 inches. Finished in dull grey nickel. Rust resisting.

Packed 1 in a box; weight, 1 $\frac{1}{4}$ pounds.

Each. \$5.00

Wiss Metal-Master Compound Action Aviation Snips

Widely used in the aviation, air conditioning and sheet metal industries.

Cuts circles, squares and any irregular patterns on stainless, dural and monel metals with

ease. Will cut ends of tubing, exhaust manifolds, etc.

Cutting heads forged from wear-resisting manganese molybdenum steel. Handles hot-pressed from tough chrome vanadium steel. All parts interchangeable.

Snips made in two matched patterns, (M-1) cuts to left or (M-2) cuts to right. Unless otherwise specified, (M-1) will be furnished. Length, 10 inches. Weight, 12 ounces.

No. M1 or M2. each \$4.25
Rubber Guard Grips. per pair .25

Bartlett Compound Lever Snips

Searight Patent



Made from drop-forged crucible tool steel.

Size In.	Each	Capacity Gage	Total Length Inches	Length Blade Inches	Length Cut Inches	Weight Pounds
7 Stamped	\$3.00	24	7	1 $\frac{1}{2}$	1 $\frac{1}{4}$	$\frac{5}{16}$
8 Forged	4.50	22	8	2	1 $\frac{5}{8}$	$\frac{5}{8}$
10 Forged	6.75	20	10 $\frac{1}{2}$	2 $\frac{3}{4}$	2 $\frac{1}{8}$	1 $\frac{1}{2}$
12 Forged	9.00	18	12	3 $\frac{1}{2}$	2 $\frac{5}{8}$	1 $\frac{7}{8}$
14 Forged	10.50	*	14	4 $\frac{1}{8}$	3 $\frac{1}{4}$	2 $\frac{9}{16}$
19 Forged	15.00	14	20	3	2 $\frac{1}{4}$	3 $\frac{1}{2}$

*Suitable for heavy bench work.

No. 30 Bartlett Compound Lever Bench Shears

Searight Patent

Made with patented compound lever principle of steel castings. All parts interchangeable. Removable crucible tool steel blades, $\frac{7}{32}$ inch thick. Blades run full length of jaw, including pivot hole, so that bearing back of this point is on hardened steel.

Cuts 12 gauge steel; arrangement of jaws allows a full sheet to be handled to advantage.

Length over all, 33 inches; cut, 4 $\frac{1}{2}$ inches; blade, 8 inches. Weight, 16 pounds.

No. 30, Specify Right or Left-Hand Cut. each \$30.00



Wiss Combination Pattern Nu-Grip Snips



Designed for cutting curves, circles and irregular objects such as templets, figures and pattern work, and in addition can be used on straight cutting.

Made of crucible steel, accurately tempered; has hardened bolt and nut, fine adjustment.

No.	UC-8	UC-9½
With Spring, per pair	\$1.75	\$2.15
Without Spring, per pair	1.60	2.00
Length, inches	8	9½
Weight, per Dozen, pounds	8	12

Crescent Circular Cutting Snips



Designed specially for cutting out intricate patterns and curves. They cut smoothly and leave the metal unbent. Have polished blades and blue enameled handles.

Packed 1 in a box.

Number, T47	T412
Each, \$1.10	\$1.75
Length, inches	7 12
Cut, inches	1¼ 3
Weight, Packed, ounces	7 25

Crescent Tinnerns' Snips



Forged of special steel. Blades have keen, strong edge that will retain its sharpness. Powerful leverage makes them cut evenly and smoothly. Has polished blades and blue enameled handles. Packed 1 in a box.

No.	Each	Lgth. In.	Cut In.	Wt. Oz.	No.	Each	Lgth. In.	Cut In.	Wt. Oz.
S47	\$.85	7	1¾	7	S411	\$1.25	11	2½	19
S48	.90	8	1⅞	8	S412	1.50	12¾	3	25
S49	1.00	9	2	9	S413	1.80	13⅞	3½	32
S410	1.10	10	2¼	13	S414	2.10	14⅞	4	38

Crescent Circular Cutting Snips



Forged steel snips designed after standard circular cutting style. Cut smoothly and easily.

No. U416 is the heavy duty type made for extra heavy service.

Polished blades. Blue enameled handles.

Packed one in a box.

No.	U412	U416
Each.....	\$1.75	3.00
Length.....inches	12 ³ / ₄	16 ¹ / ₄
Size Cut.....inches	3	2 ³ / ₄
Weight.....pounds	1 ³ / ₄	4

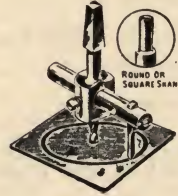
No. J-7 Wiss Light Metal Snips



For light metal work. Made of fine tool steel. Length, 7 inches; cut, 1¼ inches. Weight per dozen, 3 pounds.

No. J-7, Curved, each	\$1.50
No. J-7, Straight, each	1.25

No. 5 Pawood Circle Cutters



For cutting holes in metal fibre, bakelite, hard rubber, hardwood, etc. High speed steel cutter adjustable from 1 to 5½ inches diameter.

Packed 1 in wooden box; wt., 1 lb.

No. 5, Square Shank, each	\$2.50
No. 5, 5/16" Round Shank, each	2.50
No. 5, 1/2" Round Shank, each	2.50

Greenlee Knockout Punches



The Greenlee Knockout punch will enlarge holes in metal boxes up to 10 gauge in one minute per hole, doing away with drilling, reaming, and filing. Cutting is done by a 2-point punch, driven by screw action through the metal into a die of proper size.

The No. 735 consists of four punches to cut 7/8, 1⅜, 1½, and 1⅞-inch holes to fit 1/2, 3/4, 1, and 1¼-inch conduit. The No. 737 consists of two punches to cut 1⅝ and 2⅜-inch holes to fit 1½ and 2-inch conduit.

Packed in a leather case. Weight No. 735, complete in case, 2 pounds 12 ounces; No. 737, 4 pounds 4 ounces.

No. 735, each	\$10.00
No. 737, each	10.00

No. 740 Greenlee Knockout Cutters

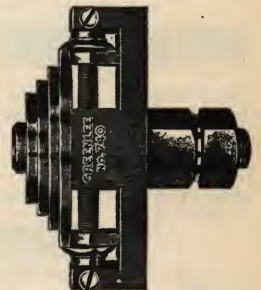
The Greenlee Knockout Cutter will enlarge holes in metal up to ⅝-inch thick in 1½ minutes or less per hole. Enlarging is done by cutting, the power being applied by screw action. Cutters are mounted in the body of the tool and are always rigid.

One complete cutter comes packed in a leather case and includes four metal discs for cutting 1⅝, 2⅜, 2⅞, and 3½-inch holes to fit 1½, 2, 2½, and 3-inch conduit.

All parts are made from high grade tool steel, carefully heat treated and ground for size and clearance.

Weight, 4 pounds 8 ounces.

No. 740, each	\$15.00
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No. 25 Metal Punches



For cutting all kinds of soft sheet metals, also sheet steel ⅝-inch thick.

Diameter of Hole Inches	Per Dozen	Diameter of Hole Inches	Per Dozen	Diameter of Hole Inches	Per Dozen
1/4	\$5.00	1/2	\$8.50	7/8	\$15.00
5/16	5.00	9/16	11.00	1	17.00
3/8	7.00	5/8	12.00	1⅛	20.00
7/16	7.50	3/4	13.50	1¼	24.00

No. 200 Hargrave Alloy Steel Cold Chisels

Individually Tested



This chisel is made from a special analysis tool steel. It is forged out under the trip hammer, assuring much greater durability than can be expected of drop forgings.

Each tool is carefully tempered for the work for which it is intended and tested for hardness and toughness.

Size of steel is same as width of cutting edge.

Width Blade.in.	1/4	5/16	3/8	1/2	5/8	3/4	7/8	1
Per Dozen.....	\$3.00	3.30	3.60	4.20	5.00	6.60	8.00	10.00
Length.....in.	5	5	5	6	6 1/2	7 1/2	8	8 1/2

No. 205 Extra Long Cold Chisels

Individually Tested



Width Blade Inches	Length Inches	Natural Finish per Doz.	Width Blade Inches	Length Inches	Natural Finish per Doz.
1/2	8	\$4.50	5/8	18	\$9.00
5/8	8	5.50	3/4	18	10.00
1	10	5.00	7/8	18	12.00
5/8	10	6.00	1	18	15.00
3/4	10	7.00	1 1/4	18	23.00
7/8	10	8.50	3/4	24	13.00
1	10	11.00	7/8	24	15.00
1/2	12	5.50	1	24	20.00
5/8	12	6.50	1 1/4	24	28.00
3/4	12	7.50	1 1/2	24	48.00
7/8	12	10.00	1 3/4	36	39.00
1	12	12.00	1 1/2	36	64.00

No. 223 Hargrave Cape Keyseating Chisels

Individually Tested



Hand forged from alloy steel. Blue lacquered body and polished blade.

Cut. Edge..in.	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	7/8
No.223 per doz.	\$4.20	4.80	5.40	6.00	6.60	7.50	8.00	9.00	12.00
Length.....in.	4 1/2	5	6 1/2	7	7 1/2	8	8	8 1/2	9
Diam.Steel in.	5/16	3/8	1/2	5/8	3/4	3/4	7/8	1	

No. 243 Hargrave Diamond Point Chisels

Individually Tested

Cutting Edge..in.	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	7/8
Per Dozen.	\$4.20	4.80	5.40	6.00	6.60	7.50	8.00	9.00	12.00
Length..in.	4 1/2	5	6 1/2	7	7 1/2	8	8	8 1/2	9
Diameter Steel..in.	5/16	3/8	1/2	5/8	3/4	3/4	7/8	1	



Cutting Edge. In.	Length Inches	Diam Steel In	Per Dozen	Cutting Edge. In.	Length Inches	Diam Steel. In.	Per Dozen
1/8	4 1/2	5/16	\$4.20	1/2	8	3/4	\$7.50
3/16	5	3/8	4.80	5/8	8	3/4	8.00
1/4	6 1/2	1/2	5.40	3/4	8 1/2	7/8	9.00
5/16	7	5/8	6.00	7/8	9	1	12.00
3/8	7 1/2	3/4	6.60	..	..	..	.....

No. 580 Hargrave Rivet Busters



Forged from alloy steel. Tested for hardness.

Length.....inches	9	12	18
No. 580.....per dozen	\$9.00	12.00	25.00
Cutting Edge.....inches	1 1/2	5/8	3/4
Size Stock.....inches	3/4	7/8	1
Weight per Dozen.....pounds	12 3/4	24	48

No. 963 Plugging Chisels



Length, 10 inches. Packed 6 in a box.

Cutting Edge.....inches	3/16	1/4
Per Dozen.....	\$7.20	7.80
Diameter Steel.....inches	1/2	5/8
Weight per Dozen.....pounds	6 3/16	9 5/16

No. 962 Hargrave Tile Chisels Alloy Steel



Packed 1 dozen in a box.

No.....	962
Per Dozen.....	\$3.60
Cutting Edge.....inches	1 1/4
Length.....inches	5
Weight per Dozen.....ounces	12

No. 941 Hargrave Flat Brick Chisels



Length, 12 inches. Cutting edge, 1 1/8 inches. Stock, 7/8x3/8 inches.

Weight per dozen, 12 pounds.

No. 941.....per dozen	\$9.00
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No. 584 Hargrave Stone Points Alloy Steel



Size....in.	3/4x9	3/4x12	7/8x12	1x12	1x15	7/8x18	1x18	1 1/8x18
Per Dozen.	\$7.00	7.50	10.00	12.00	14.00	12.00	15.00	21.00
Size....in.	1 1/8x24	1 1/4x18	1x24	1 1/4x24	1 1/2x24	1 1/4x36	1 1/2x36	
Per Dozen.	\$26.00	23.00	20.00	28.00	48.00	39.00	64.00	

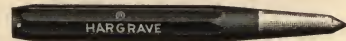
No. 2873 Hargrave Prick Punches



Hand forged from special analysis alloy steel. Finished with bright, dark blue lacquered body and polished blade.

Diameter of Steel.....in.	1/4	3/8	1/2
Length.....in.	3 1/2	5 1/2	6
No. 2873.....per doz.	\$2.70	3.60	4.80

No. 284 Hargrave Center Punches



Diameter Steel.....inches	1/4	3/8	1/2
No. 284.....per dozen	\$2.70	3.60	4.80
Length.....inches	3 1/2	5	6

No. 263 Solid Punches



Size Point Inches	Length Inches	Diam. Steel Inches	Per Dozen	Size Point Inches	Length Inches	Diam. Steel Inches	Per Dozen
5/32	5	3/8	\$3.30	5/16	6	1/2	\$4.20
3/16	5 1/2	3/8	3.60	3/8	7	5/8	5.00
1/4	6	1/2	3.90	1/2	8	5/8	6.00

No. 630 Hargrave Drift Punches



For driving out pins and bushings and lining up bolt and rivet holes. Hand forged. Length, 10 inches.

Point.....inches	3/16	1/4	5/16	3/8
No. 630.....per dozen	\$7.00	7.00	7.00	8.00
Diameter Steel.....inches	5/8	5/8	5/8	3/4

No. 620 Hargrave Lining Up Punches



Hand-forged, with hardened and tempered point.

Point.....inches	$\frac{5}{32}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{1}{4}$
No. 620.....per dozen	\$7.00	8.00	8.00	10.00	14.00
Steel.....inches	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{3}{4}$
Length.....inches	10	12	12	12	18
Taper.....inches	7	$8\frac{1}{2}$	7	$8\frac{1}{2}$	9

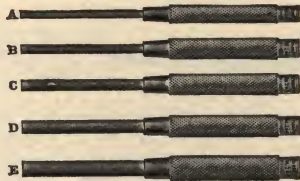


Hargrave Pin Punches

Hand forged from special analysis alloy steel. Bright blue lacquered body, polished blade.

No. 2836-6", 1 $\frac{3}{4}$ -In. Pin					No. 2869-9", 3 $\frac{1}{2}$ -In. Pin				
Point...in.	$\frac{3}{32}$	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	
Per Doz...	\$5.00	5.00	5.00	5.00	7.00	7.00	7.00	7.00	
Steel...in.	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	
Lgth...in.	6	6	6	6	9	9	9	9	

No. 248 Starrett Drive Pin Punches



These punches are 8 inches long and have a knurled grip of 4 $\frac{1}{2}$ inches. Pin drive is 3 $\frac{1}{2}$ inches long. Designed to stand hard use. Good quality steel, hardened and polished. Packed 6 in a box; assorted, 12 in a box.

Diameter of Point.....inches	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$
Price.....each	\$.35	.35	.35	.35	.35
Price, Assorted.....per dozen	\$4.20				
Price, Set of 5 in Plain Box.....per set	1.75				

No. 118 Starrett Spacing Center Punches



This combination prick punch and spacing tool is convenient for laying off work quickly and accurately—for drilling, cutting out dies, etc. The prick punch is solid, made from tool steel properly tempered. The guide point is set in a socket with a spiral spring to force it down.

No. 118.....each \$9.00

No. 18 Starrett Automatic Adjustable-Stroke Center Punches



No hammer is needed. Point can be removed for regrounding.

No.	Length Inches	Diameter Inches	Punches	Price Each	Extra Points
18AA	3 $\frac{3}{4}$	$\frac{3}{8}$	1.80		\$2.20
18A	5	$\frac{1}{2}$	2.40		.20
18B	6	$\frac{5}{8}$	3.00		.20

No. 117 Starrett Center Punches

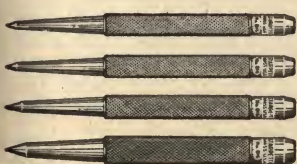


Packed 12 in a box, except size E, 6 in a box.

Size	AA	A	B	C	D	E
Each.....	\$25	.25	.25	.25	.25	.30
Length.....inches	3 $\frac{1}{8}$	4	4	4	4	5
*Diameter.....inches	$\frac{1}{16}$	$\frac{5}{64}$	$\frac{3}{32}$	$\frac{3}{64}$	$\frac{3}{32}$	$\frac{1}{4}$
Assorted, A, B, C, D in Plain Box.....per dozen	\$3.00					
Assorted A, B, C, in Round Wooden Box.....per dozen	3.25					

*Diameter at top of tapered point.

No. 816 Starrett Prick Punches



Hardened and polished; long tapered points. Length, 4 inches. Packed one dozen in a box. Weight each, 4 ounces. A, B, C, D.....each \$2.20 Assorted Sizes, 3A, 3B, 3C, 3D.per doz. 2.40

Syracuse Nail Sets

Round Body



Made of twist drill steel and both ends tempered. The bodies are knurled and will not fly from the fingers. The points are cupped to prevent slipping from the nail head. Finely blued the full length.

Packed one dozen in slide cover wood box.

No.	Diam. Point Inches	Price per Dozen	No.	Diam. Point Inches	Price per Dozen
90	Assorted	\$1.40	94	$\frac{3}{32}$	\$1.40
92	$\frac{3}{32}$	1.40	95	$\frac{5}{32}$	1.40
93	$\frac{3}{32}$	1.40	..	...	...

Millers Falls Nail Sets



Molybdenum alloy steel. Hardened point. Length, 4 in.

Body diameter, $\frac{5}{16}$ in. Weight per dozen, 17 ounces.					
No.....	801	802	803	804	805
Per Dozen.....	\$1.60	1.60	1.60	1.60	1.60
Size Point.....inches	$\frac{1}{2}$	$\frac{3}{2}$	$\frac{3}{2}$	$\frac{4}{2}$	$\frac{5}{2}$
No. 815, Assortment.....per dozen	\$1.60				

Hurwood Scratch Awls



Handle has flat sides to keep it from rolling and to provide a good grip.

No.....	6	7
Per Dozen.....	\$5.40	5.40
Blade.....inches	2 $\frac{3}{4}$	3 $\frac{1}{2}$
Length Over All.....inches	5 $\frac{7}{8}$	6 $\frac{1}{2}$
Weight per 6.....pounds	$\frac{3}{4}$	1 $\frac{1}{8}$

No. 8 Stanley Tinners' Awls



Blade, shank and head are formed of one piece of steel. Two patented projecting wings under head, together with rivet which passes through steel ferrule, handle and shank, securely fasten blade in handle. Handle stained black. Point carefully tempered.

Length blade, 3 $\frac{1}{2}$ inches. Diameter blade, $\frac{5}{16}$ inches.

Length over all, 6 $\frac{1}{2}$ inches.

Packed 6 in a box.

Weight per $\frac{1}{2}$ dozen; 1 $\frac{5}{8}$ pounds.

No. 8.....per dozen \$6.60

Tinners' Rivet Sets



Packed one-half dozen in a cardboard box.

Size No.	For Iron Rivets, Lbs.	For Copper Rivets Nos.	Length Inches	Wt. per Doz. Lbs.	Price Each
00	14	..	5 $\frac{1}{2}$	10 $\frac{1}{2}$	\$1.15
0	12 and 10	5	5 $\frac{1}{2}$	10 $\frac{1}{2}$	1.15
1	8	6	5	7	.92
2	6	7	5	7	.92
3	5 and 4	8	4 $\frac{1}{2}$	5	.74
4	3 " 2 $\frac{1}{2}$	9	4 $\frac{1}{2}$	5	.74
5	2 " 1 $\frac{3}{4}$	10 and 11	4 $\frac{1}{4}$	3 $\frac{1}{2}$	.74
6	1 $\frac{1}{2}$	12	4 $\frac{1}{4}$	3 $\frac{1}{2}$	.58
7	1 $\frac{1}{4}$	13	4 $\frac{1}{4}$	3	.58
8	12 and 10 ozs.	14	4 $\frac{1}{4}$	3	.58

No. 90 Yankee Plain Screwdrivers



The blades and ferrules are finely polished; the handle is of hardwood with black satin finish.

Each blade individually tested.

The 18, 24 and 30-inch have double grip handle.

Lgh. Blade In.	Per Dozen	Lgh. Over All, In.	Net Wt., Lbs. per Doz.	Lgh. Blade In.	Per Dozen	Lgh. Over All, In.	Net Wt., Lbs. per Doz.
1 1/2	\$6.10	4 1/4	1 1/8	9	\$13.40	15	7 1/8
2	6.50	5 3/4	1 1/2	10	15.10	16 3/8	10 1/8
3	7.00	7 1/2	1 7/8	12	17.60	18 1/4	11 3/8
4	7.60	9 1/4	2 7/8	15	23.60	21 3/8	13 1/4
5	8.40	10 1/2	4 1/4	18	33.40	26 3/4	19 3/4
6	9.20	11 3/4	4 1/2	24	39.00	33	24
7	10.60	13	6 3/4	30	44.60	39	8 1/4
8	12.30	14	7	..	..	..	..

No. 95 Yankee Plain Screwdrivers

Cabinet Style



Blade and ferrule finely polished. Blade tempered entire length and individually tested.

Handle of hardwood with black satin finish.

Blade and handle fastened so that they cannot be loosened.

Packed 6 in a box.

Lgh. Blade In.	Per Doz.	Lgh. Overall In.	Net Wt. PER DOZ. Lb. Oz.	Lgh. Blade In.	Per Doz.	Lgh. Overall In.	Net Wt. PER DOZ. Lb. Oz.
2 1/2	\$6.10	6 1/4	1 6	8 1/2	\$9.90	13 2	14
3 1/2	6.60	7 1/4	1 8	9 1/2	10.80	14 3	..
4 1/2	7.10	8 1/4	1 10	10 1/2	11.90	15 3	2
5 1/2	7.60	9 1/4	1 12	12 1/2	13.60	17 3	6
6 1/2	8.10	10 1/4	2 ..	15 1/2	16.20	20 3	14
7 1/2	8.90	12	2 12	..	..	..	..

Hurwood Baby Screwdrivers



Will turn a good sized screw. Fluted handle, stained black. No. 31 has insulated head.

Length of blade, 1 1/2 inches. Length overall, 4 1/8 inches.

Packed 6 in a box. Weight, 1/2 pound.

No.	21	31
Per Dozen	\$4.20	4.20
Diameter of Blade.....inches	7/32	3/16

No. 20 Stanley Hurwood Screwdrivers



Machine cross ground tip. Hardwood handle. Tempered steel blade. Blade, shank, and head are formed from one piece of steel. The shank passes through the handle and ferrule and is pinned. Two projecting wings in the head, together with the pin securely fasten the blade and keep it from turning.

Blade Inches	Per Dozen	Diameter Inches	Length Over All Inches
2 1/2	\$4.80	7/32	6 1/2
3	5.40	7/32	8
4	5.40	1/4	9
5	6.00	5/16	10 1/2
6	6.60	5/16	11 3/4
8	8.40	3/8	15
10	10.80	3/8	17
12	12.60	3/8	19

Hurwood Special Machinists' Screwdrivers



For heavy work where a short driver is required. Six in a box.

No.	Length Blade.....inches	Length Over All.....inches	Per Dozen.....
51	1 3/4	3 1/2	\$8.40
52	1 3/4	4 1/2	9.60
53	1 3/4	5 3/4	11.40

No. 70 Stanley Screwdrivers



Has round steel blade with the end in handle swedged, and a pin through the ferrule and shank securely fastening it. Handle is fluted and stained red.

Packed 6 in a box.

Length Blade Inches	Per Dozen	Length Over All Inches	Diam. Blade Inches	Wt., Lbs. per 1/2 Doz.
2 1/2	\$3.00	6 1/2	7/32	3/4
3	3.60	8	7/32	7/8
4	4.20	9	1/4	1 1/4
5	4.80	10 1/2	5/16	1 3/4
6	4.80	11 3/4	5/16	2 1/8
8	6.00	15	3/8	3 1/2
10	7.20	17	3/8	3 7/8
12	8.40	19	3/8	4 1/4

Hercules Screwdrivers



Handle is of tough non-metallic substance, breakproof and shockproof, and will not soak up oil or water. Blade is of special steel, hardened and tempered the entire length in pyrometer controlled electric furnaces. Heavy wings on the tang of the blade lock blade in the handle. Tips are accurately machine cross ground to size to make a non-slip fit in screw slots.

Handles are transparent amber colored. Blades are plated bar finish with buffed tips.

No.	Description	Size Blade Inches	Wt., Lbs. per 1/2 Dozen	Per Dozen
3006	Round Blade.....	1/4x4	1 1/8	\$4.80
3006	Round Blade.....	5/16x6	2	6.60
3006	Round Blade.....	3/8x8	3 1/2	8.40
3007	Square Blade.....	1/4x4	1 1/4	5.40
3007	Square Blade.....	5/16x6	2 1/4	8.40
3007	Square Blade.....	3/8x8	3 3/8	9.00
3017	Square Blade.....	1/4x6	1 3/4	7.20
3027	Square Blade.....	3/8x6	3	9.00
3008	Electricians' Round Blade.....	3/16x3	3/4	4.20
3008	Electricians' Round Blade.....	3/16x6	1 1/4	5.40
3018	Electricians' Square Blade.....	3/16x3	3/4	4.80
3012	Close Quarter.....	1/4x1 1/4	5/8	4.20
3010	Pocket Round Blade.....	1/8x2	3/4	1.20
3011	Pocket Square Blade.....	1/8x2	1	2.40

Set of Pocket Screwdrivers

No. 3010A, Set of 12 No. 3010 in Display Box;

Weight per set, 3/4 pound.....each \$1.26

No. 3011A, Set of 12 No. 3011 in Display Box;

Weight per set, 1 pound.....each 2.40

Stanley General Use Screwdrivers

For Phillips Recessed Head and Self-Centering Screws and Bolts



Tempered, polished steel blades held in the handles by 2 ears swaged on the shank.

Handles are of hardwood, natural color and deeply fluted.

No.	2701	2702	2703	2704
Each.....	\$.45	.45	.55	.75
Size.....	1	2	3	4
Fits Screws and Bolts.....Nos.	Up to 4	5-9	10-16	18 & larger
Length Blade.....inches	3	4	6	8
Diam. of Round Shank.....inches	3/64	1/4	5/16	3/8
Weight per 1/2 Dozen.....pounds	1/8	1 3/8	2	3

Stanley Stanloid Screwdrivers**For Phillips Recessed Head and Self-Centering
Screws and Bolts**

Tempered, polished steel blades held in the handles by 2 ears swaged on the shank. Fluted handles of Stanloid, a tough, non-metallic substance.

No.	2751	2752	2753	2754
Each	\$.95	1.05	1.30	1.85
Size	1	2	3	4
Fits Screws and Bolts.....Nos.	Up to 4	5-9 Incl.	10-16 Incl.	18 & Larger
Length Blade.....inches	3	4	6	6
Diam. of Round Shank.....inches	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$
Weight per 1/2 Dozen.....pounds	1	1 1/4	2 1/4	3

*Made with hexagonal shank with point end $\frac{3}{8}$ -inch round for $2\frac{3}{4}$ -inch.

Stanley Heavy Duty Screwdrivers**For Phillips Recessed Head and Self-Centering
Screws and Bolts**

Strong, tempered steel blades, highly polished. Wings on the shank of the blade, and a rivet that goes through the ferrule, handle, and shank lock the blade in place.

Satin black, hardwood handles with deep machine cut flutes.

No.	2501	2502	2503	2504
Each	\$.55	.55	.70	.90
Size	1	2	3	4
Fits Screws and Bolts.....Nos.	Up to 4	5-9 Incl.	10-16 Incl.	18 & Larger
Length Blade.....inches	3	4	6	8
Diam. of Round Shank.....inches	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$
Weight per 1/2 Dozen.....pounds	$\frac{7}{8}$	1 3/8	2	3

Lenox Screwdrivers

A well balanced tool built to withstand hard service.

Made of special analysis steel, one-piece forging. Both blade and shank are scientifically heat treated. Particular care is given to the temper.

Handles fit hand; seasoned against shrinkage.

Patented screw rivet eliminates any splitting or loosening of handles.

Blade Lgth. In.	Per Doz.	Length Over All In.	Diam. In.	Wt. Per Doz. Lb.	Blade Lgth. In.	Per Doz.	Length Over All In.	Diam. In.	Wt. Per Doz. Lb.
2	\$3.50	5 3/4	1/4	2	6	\$6.00	11 1/4	21/64	7 1/8
2 1/2	3.70	6 1/4	1/4	2 1/2	7	7.00	12 1/4	21/64	7 1/2
3	4.00	7 3/8	5/16	3 3/4	8	8.00	14 3/8	15/32	10 1/2
4	4.25	8 3/8	5/16	4	10	10.00	16 3/8	15/32	11 1/2
5	5.00	9 3/8	5/16	4 1/2	12	12.00	18 3/8	15/32	12 1/2

**Lenox Machinist Type Heavy Duty
Screw Drivers**

A super-quality tool built on rugged lines to stand hard service. One piece from handle to tip made of the highest grade special analysis steel.

Point is hard enough to stand strain without bending, but without going to the extreme of brittleness.

Handle fits the hand and is thoroughly seasoned to safeguard against shrinkage. Patented screw rivet eliminates any splitting or loosening of handle. Tip is made to conform to standard specifications of screw slot.

No.	Length Over All Inches	Length Blade Inches	Square Shank Inches	POINT, IN. Width	Thick-ness	Wt. Lbs. per Dozen	Price per Dozen
7 1/2	7 1/2	3 1/4	5/16	10/32	3/64	3 3/4	\$8.00
9 1/2	9 1/2	5	1/16	7/16	3/64	8 1/4	10.00
10 1/2	10 1/2	5 3/8	9/16	3/4	7/64	12 1/4	11.00

Yankee Spiral Ratchet Screwdrivers

Right and left hand, and rigid. Chromium plated. Three sizes of bits are furnished with each tool. Packed 1 in a box.

No. 30A Standard Pattern

Drives or draws screws by pushing on handle. Also has ratchet movement and can be locked rigid. Changed right to left hand or locked instantly by moving shifter.

When closed and locked (with shifter midway between ends of slot), the tool becomes rigid or as an ordinary screwdriver. It can also be made rigid with spindle fully extended and shifter midway between ends of slot. In this position it becomes especially effective to reach out-of-the-way places. Stroke, 5 1/4 inches; length, closed, with bit, 13 inches; extended, 18 1/4 inches.

No. 30A, Net Wt. per Doz., 13 Lb. 8 Oz... per dozen \$53.70

No. 31A Heavy Pattern

For large screws, as used in car shops, etc.

Drives or draws screws by pushing on handle. Also has ratchet movement and can be locked rigid. Changed right to left hand or locked instantly by moving shifter.

Stroke, 8 1/4 inches, length closed, with bit, 16 3/4 inches; length extended, 25 inches.

No. 31A, Net Wt. per Doz., 21 Lb... per dozen \$72.10

No. 35 Light Pattern

With knob handle instead of straight, for use where large numbers of small screws are to be driven and a lighter tool much more sensitive and convenient. It is small enough to be carried in pocket, seven inches long closed without bit and weighs less than seven ounces. The bits are straight to pass through holes in insulators, etc. Extra long bits can be supplied for this size.

Extreme length with bit in chuck, 9 1/8 inches closed, 12 3/8 inches extended.

No. 35, Net Wt. per Doz., 7 1/2 Lb... per dozen \$39.90

Extra bits for Nos. 30A, 31A, and 35, \$3.60 per dozen; 90 cents per set of 3.

Yankee Spiral Ratchet Screwdrivers

Right and left hand, and rigid.

This screwdriver has a spring in handle which causes the handle to come back for the next push similar to the automatic or push drills. This is more rapid and convenient than pulling handle back. This feature is especially valuable in driving screws in narrow or deep places where the left hand cannot hold chuck on end of tool. The spring keeps bit in position as it forces the handle back for the next stroke.

Chrome-plated finish.

Three bits of different widths included with each tool.

Packed 1 in box.

No. 130A Standard Pattern

Extreme length with bit in chuck, 14 3/4 inches closed, 20 inches extended.

Net weight per dozen, 15 pounds.

No. 130-A... per dozen \$61.30

No. 131A Heavy Pattern

Extreme length with bit in chuck, 19 3/8 inches closed, 28 inches extended.

Net weight per dozen, 24 pounds.

No. 131 A... per dozen \$82.80

No. 135 Light Pattern

Extreme length with bit in chuck, 10 1/4 inches closed, 13 1/2 inches extended.

Net weight per dozen, 8 pounds, 4 ounces.

No. 135... per dozen \$47.40

Extra bits for Nos. 130A, 131A, and 135, \$3.60 per dozen; 90 cents per set of 3.

No. 10 Yankee Ratchet Screwdrivers



Right and left hand, and rigid. Drives or

withdraws screws or is locked like plain driver, change being made instantly by simply moving shifter. Ratchet acts easily and is of durable, strong construction.

Polished hardwood handle. Blade is of special high quality steel, ground and polished and tested. Other metal parts are chrome-plated and buffed.

Adjustment for right or left hand is made by slide moved in direction of length of blade.

Packed 6 in a box.

Lgth. Blade In.	Per Dozen	Length Over All Inches	NET WT. PER DOZ. Lb. Oz.	Lgth. Blade In.	Per Dozen	Length Over All Inches	NET WT. PER DOZ. Lb. Oz.
2	\$12.30	4 $\frac{7}{8}$	1 8	6	\$19.00	11 $\frac{1}{8}$	6 2
3	14.30	7 $\frac{5}{8}$	4 ..	8	21.40	13 $\frac{1}{2}$	7 ..
4	15.30	8 $\frac{5}{8}$	4 2	10	25.80	16 $\frac{1}{4}$	9 8
5	16.80	9 $\frac{1}{2}$	4 6	12	28.40	18 $\frac{1}{4}$	10 4

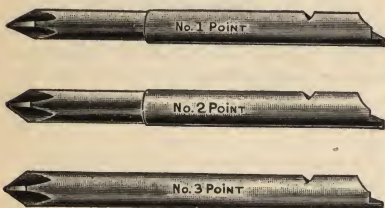
No. 15 Yankee Ratchet Screwdrivers



It has on its blade a knurled washer, by means of which the blade can be turned with a finger and the thumb. This permits the hand holding the handle to press steadily against the screw and prevent the screw from wobbling, while the thumb and finger can turn or ratchet the blade until screw is well started in its place. The adjustment is made by shifter. For right hand move toward blade, left hand toward handle; when placed midway, blade is rigid. Chrome-plated. Packed six in box.

Length Blade Over All Inches	Length Blade Over All Inches	NET WEIGHT PER DOZ. Lbs. Oz.	Per Dozen	Length Blade Over All Inches	Length Blade Over All Inches	NET WEIGHT PER DOZ. Lbs. Oz.	Per Dozen
2	4 $\frac{5}{8}$	1 10	\$13.40	5	7 $\frac{3}{4}$	2 ..	\$15.20
3	5 $\frac{7}{8}$	1 12	13.90	6	8 $\frac{3}{4}$	2 2	15.70
4	6 $\frac{1}{2}$	1 14	14.60	8	10 $\frac{7}{8}$	2 6	16.80

Yankee Phillips Screwdriver Bits



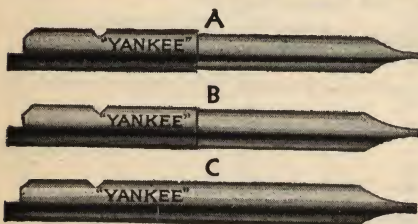
For use in Nos. 30A, 31A and 35 Yankee Spiral Ratchet Screw Drivers for the driving of Phillips Recessed Head Screws. No. 3 point cannot be used in No. 35 Screwdriver.

All point sizes have overall lengths of 3 $\frac{1}{4}$ inches.

When ordering, be sure to state number of screwdriver and point size.

Size No.	1	2	3
Per Dozen	\$7.92	7.92	7.92

Yankee Heavy Duty Screwdriver Bits



Made of a special analysis steel in order to obtain suitable degree of hardness—a correct temper necessary for driving sheet metal or self-tapping screws.

When ordering, be sure to specify style of screwdriver and bit size.

Size	FOR YANKEE SPIRAL SCREWDRIVERS								
	No. 30A			No. 31A			No. 35		
Per Dozen	A	B	C	A	B	C	A	B	C
Overall Length...in.	3	3	3	3	3	3	2 $\frac{1}{2}$	2 $\frac{1}{2}$	2 $\frac{1}{2}$
Width at Tip...in.	.218	.250	.281	.250	.281	.312	.156	.156	.156
Thickness at Tip...in.	.025	.032	.040	.040	.048	.060	.025	.025	.025

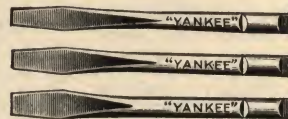
No. 133H Yankee Handyman Quick-Return Spiral Screwdrivers



With quick-return spring. Length with bit, spiral extended, 9 $\frac{5}{8}$ in.; spiral not extended, 7 $\frac{1}{2}$ in. Net wt., 8 oz.

Packed 4 in a merchandiser. Shipping weight, 2 $\frac{1}{2}$ pounds. No. 133H.....per dozen \$20.00

Extra Yankee Screwdriver Bits



Best grade steel, polished, notched to fit Yankee drivers; in set of 3. Packed one set in an envelope.

FOR NOS. 35 AND 135.—One each 5 $\frac{1}{32}$, 3 $\frac{1}{16}$, and 1 $\frac{1}{32}$ -inch points. Length 3 inches.

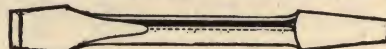
FOR NOS. 31A AND 131A.—One each, 1 $\frac{1}{4}$, 3 $\frac{1}{32}$, and 5 $\frac{1}{16}$ -inch points. Length, 3 $\frac{7}{8}$ inches.

FOR NOS. 30A AND 130A.—One each, 7 $\frac{1}{32}$, 1 $\frac{1}{4}$ and 3 $\frac{1}{32}$ -inch points. Length, 3 $\frac{7}{8}$ inches.

FOR No. 20/2.—One each, 7 $\frac{1}{32}$, 1 $\frac{1}{4}$ and 3 $\frac{1}{32}$ -inch points. Length, 3 $\frac{7}{8}$ inches.

Per Set of 3..... \$.90

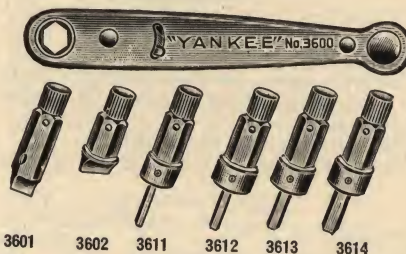
No. 26 Stanley Screwdriver Bits



Forged from nickel molybdenum steel, oil tempered, and polished.

Length, 5 inches.							
Tip.....inches	3 $\frac{1}{16}$	1 $\frac{1}{4}$	5 $\frac{1}{16}$	3 $\frac{3}{8}$	1 $\frac{1}{2}$	5 $\frac{5}{8}$	3 $\frac{3}{4}$
Per Dozen.....	\$2.40	3.00	3.00	3.00	3.00	3.60	4.20
Assortment of 12, with Steel Display Stand.....	\$3.00						

Yankee Offset Ratchet Handles and Interchangeable Adapters



Ratchet handles are for use with screwdriver and socket adapters on hollow head screws.

Adapter blades are of special alloy steel properly hardened and tempered. Adapters are finished in dull black.

Each fitted with knurled spinner top for quick driving. No. 3600 Ratchet Handle, Chromium Plated, per doz. \$8.00

Adapters for No. 3600 Ratchet Handles

No.	SCREW DRIVERS		HEX WRENCHES			
	3601	3602	3611	3612	3613	3614
Per Dozen.....	\$4.00	4.00	4.00	4.00	4.00	4.00
Size Blade.....in.	1 $\frac{1}{4}$	1 $\frac{3}{32}$	.....	.....	.....	.....
Size Hex.....in.	.....	.....	5 $\frac{1}{64}$	3 $\frac{3}{32}$	1 $\frac{1}{8}$	5 $\frac{1}{32}$
Set Screw Size...No.	.....	.....	8	10, 12	1 $\frac{1}{4}$ "	5 $\frac{1}{16}$ "
Cap Screw Size...No.	.....	.....	4	5, 6	8	10

No. 3900 Ratchet Handles

Same type as No. 3600 except for larger screws.

No. 3900 Ratchet Handle, Chromium Plated, per doz. \$10.40

Adapters for No. 3900 Ratchet Handles

No.	SCREW DRIVERS		HEX WRENCHES			
	3901	3902	3911	3912	3913	3914
Per Dozen.....	\$4.00	4.00	4.00	4.00	4.00	4.00
Size Blade.....in.	5 $\frac{1}{16}$	1 $\frac{1}{2}$	.....	.....	.....	.....
Size Hex.....in.	.....	.....	3 $\frac{1}{16}$	7 $\frac{1}{32}$	1 $\frac{1}{4}$	5 $\frac{1}{16}$
Set Screw Size...in.	.....	.....	3 $\frac{1}{8}$	7 $\frac{1}{16}$	1 $\frac{1}{2}$	5 $\frac{1}{8}$
Cap Screw Size...in.	.....	.....	1 $\frac{1}{4}$	5 $\frac{1}{16}$	.....	3 $\frac{1}{8}$



No. 102 Bernard Cutting Pliers

Dual fulcrum construction, parallel jaws, projecting cutters, open throat. Full nickel-plated.

Length.....inches 4½ 5½ 6½ 8
No. 102.....each \$1.50 1.75 2.25 3.25

Utica-Smith Pocket Armor Cutters

For cutting BX and BXL, Nos. 12 and 14—2-3 wire conductor or any light, flat metal. Drop forged from alloy steel.



Backs of blades rounded. Jaws cut clean.

Length, 7 inches. Weight, 8 ounces.
Each.... \$2.30

No. 2 Utica Wide Jaw Glass Pliers



Wide flaring nose type; ⅝ inch wide. Hangs properly in the hand.

Length, 8 inches. Packed 1 in a box.

No. 2.....each \$1.85

No. 3000 Wilde Needle Nose Slip Joint Side Cutting Pliers



Length, 5½ inches. Shipping weight 4½ lbs. per dozen.

No. 3000S, Satin Nickel finish, each \$1.35
No. 3000N, Full Pol. Nickel, each 1.65

No. 2010 Wilde Long Thin Nose Pliers



Slip-Joint

Has wire cutter. Lgth., 7 inches. Jaws are 2 inches

long and ⅝ inch thick. Jaws milled with V for small nuts. Hardened bolt. Shipping weight per dozen, 6 pounds.

No. 2010S, Satin Nickel Finish.....each \$1.10
No. 2010N, Full Polished Nickel.....each 1.35

No. 2020 Wilde Long Thin Bent Nose Pliers



Slip-Joint

Has wire cutter. Length, 7 inches. Jaws

are 2 inches long and ⅝ inch thick, bent at angle of 33°. Shipping weight per dozen, 6 pounds.

No. 2020S, Satin Nickel Finish.....each \$1.15
No. 2020N, Full Polished Nickel.....each 1.40

No. 444 S & H Giant Grip Pliers



These pliers are drop forged of special steel.

Pulls cotter pins.

Has positive grip, the leverage is applied in a new way. Has great gripping power. Jaws parallel on nuts from ¼ to ¾ inch.

Length, 7½ inches. Packed one in a box.

Price, No. 444each \$1.00

Crescent MoToR KiT Combination Pliers



Slip joint style with knurled handles. Milled teeth in jaws. Case-hardened bolt and nut.

No.	Nickel Finish				Black Finish			
	G25	G26	G28	G210	G35	G36	G38	G310
Each.....	\$.50	.50	.60	.85	.30	.30	.45	.65
Length.....in.	5	6	8	10	5	6	8	10

No. 925 Crescent Combination Pliers

Slip joint. Made of special steel, hardened and oil-tempered. Chromium-plated finish.



One in a box.

Size In.	Each	Cap. In.	Wt. Oz.
6	\$1.00	1	9
8	1.25	1¼	12
10	1.50	1½	18

No. 950 S & H Combination Side Cutting Pliers

Made of forged tool steel. Slip joint and pipe grip in jaw. No pinch. Knurled handles. Nickel plated.

Packed 1 in a box.



Size. in. 5½ 7

No. 950.....each \$1.25 1.50
Weight Each.....oz. 5 8

No. M16 Crescent Long Nose Pliers



Equipped with a strong wire cutter that will cut with a clean break.

Size, 6 inches, capacity, ¾-inch.

Packed 1 in a box. Weight 5 ounces.

No. M16 Polished Finish.....each \$.75

Crescent Thin Straight Nose Pliers



Slip joint. Convenient for narrow places. Checker-dot handles nickel plated.

No.	L25	L26	L28	L210
Each.....	\$.50	.50	.75	1.00
Length.....inches	5	6	8	10

Crescent Universal Pliers



Slip joint. The curved lower jaw will force any object against the straight upper jaw.

Length.....inches	7
No. D27, Nickel.....each	\$.60
No. D37, Black.....each	.50

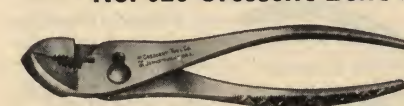
No. J26 Crescent Thin Bent Nose Pliers



For use on check nuts and similar work. Has slip joint.

Size.....inches	6
No. J26, Nickel Plated.....each	\$.60
Capacity.....inches	1

No. 926 Crescent Bent Nose Pliers



Has slip joint and shear cutters. Barrel stave shaped handles. Nickel plated finish. Packed one in a box.

Size.....inches	8	10
No. 926.....each	\$1.35	1.75
Weight.....ounces	12	18

No. 22 S & H Chain Nose Pliers

Forged tool steel. Spring tempered nose and handles. Polished head, gun metal handles. Packed 1 in a box.

Size in.	4	5	6
Ea.	\$.80	.90	1.00
Wt.			
Ea. oz.	2½	4½	5½

No. 654 Crestoloy Long Nose Side Cutting Pliers

Of forged steel. Keen edges. Polished head, gun metal handles. Packed 1 in a box.

6-Inch, Lgth. Overall, 6⅝ in., Wt. 5 oz.....	each \$1.50
7-Inch, Lgth. Overall, 7⅞ in., Wt. 6 oz.....	each 1.65

No. 1033 Crestoloy Extra Long Nose Chain Pliers

Individually tested. Polished head; gun metal handles. Packed one in a box.

Size, in.	6	7
Each.....	\$1.25	1.40

No. 23 Crestoloy Duck Bill Pliers



Extra long jaws; for weavers, jewelers, etc. Gun metal handles; polished jaws. Size, 7 inches. One in a box.

No. 23, Weight, per Dozen, 3⅓ Pounds.....	each \$1.50
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No. 777 Crestoloy Long Needle Nose Pliers

Good gripping ability. Of forged steel. Gun metal, with polished head. Packed 1 in a box.

6-Inch, Lgth. Overall, 6⅝ in.; Wt., 4 oz.....	each \$1.60
7-Inch, Lgth. Overall, 7⅞ in.; Wt., 5 oz.....	each 1.75

No. 21 Crestoloy Round Nose Pliers.

For making loops and small rings. Forged tool steel. Sizes 5 and 6 have box joint. Packed 1 in box.

Size.....	inches	4	5	6
No. 21.....	each	\$1.00	1.15	1.25

No. 20 S & H Flat Nose Pliers

Forged from tool steel. Spring tempered nose and handles. Cross checked jaws. Polished head, gun metal handles. Packed 1 in a box.

Size in.	4	5	6
Ea.	\$.80	.85	1.00
Wt. Ea. oz.	2½	4½	5½

No. 622 S & H Milliners' Pliers

Forged crucible tool steel. Hand-honed knives. Dentyne knurled handles. One in box.

Size.....	inches	5
No. 622.....	each	\$1.10

No. 650 Crestoloy Long Flat Nose Side Cutting Pliers

Forged crestoloy steel. Lap joint, gun metal handles. Individually tested.

Size, 7 inches. Packed 1 in a box.	
No. 650.....	each \$1.60

No. 888 Crestoloy Curved Needle Nose Pliers



Spring tempered nose and handles. Packed 1 in a box. Weight each, 6 ounces.

No. 888 Length, 6 Inches.....	each \$1.85
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No. 1000 Crescent Combination 3-Cutter Button Pliers



Forged steel. Gun metal handles. Packed 1 in a box.

Size.....	inches	6	8	10
No. 1000.....	each	\$.80	1.00	1.25

No. 542 Crestoloy Diagonal Pliers



A powerful cutting plier. Handles are designed to give firm grip. Tested edges. Finish gun metal with polished head.

Size, 6½ inches. Packed 1 in a box.	
No. 542.....	each \$1.35

No. 742 Crestoloy Pliers



A diagonal cutting plier of forged steel. Smooth joint action. Good leverage, keen edges. Heavy rivet. Designed for hard and continual usage. Full polished finish. Size, 7 inches. Weight, 9 ounces.

No. 742, Packed 1 in a box.....	each \$1.60
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No. 942 Crestoloy Diagonal Cutting Pliers



Scientifically shaped knurled handles.

Size Inches	Each	Weight Each, Oz.
4	\$1.35	3
5	1.50	4
5½	1.60	5
6	1.75	6

Vise-Grip Wrenches



A tool which serves as an adjustable end wrench, locking wrench, pipe wrench, vise, clamp, plier, and toggle press. Has a double lever action that locks jaws to the work with a ton of pressure. Locks with a grip that holds until lever is snapped open. Will hold anything whether round, square, etc. Adjustable to plier action. Works in close quarters at any angle. Made of alloy tool steel; nickel finish.

Length.....	inches	7	10
Each.....		\$1.65	1.95
Adjustable to.....	inches	1½	1¾
Weight.....	ounces	11	19

No. 72 Crestoloy End Cutting Nippers



Forged crestoloy steel. Smooth gun metal handles.

Size In.	No. in Box	Each
6	1	\$1.20
7	1	1.40

No. 50 Crescent Side Cutting Pliers



Forged from special tool steel with spring-tempered handles. Has keen edged cutters. Packed one in box.

Size..... inches	5	6	7	8
No. 50.....each	\$1.15	1.20	1.30	1.50

No. 1950 Crestoloy Side Cutting Pliers

Extra Heavy



Forged high grade tool steel. Keen blades. Packed one in box.

Size..... inches	6	7	8
No. 1950.....each	\$1.75	2.00	2.25
Weight..... ounces	7	10	16

No. 201 Klein's Side Cutting Pliers



For use on bare and insulated wire. Curved handles. Powerful leverage and keen cutting knives.

No.....	201-5	201-6	201-7	201-8	201-9
Each.....	\$4.60	4.90	5.60	5.90	7.60
Size..... inches	5	6	7	8	9

No. 201 Klein's Side Cutting Pliers



N. E. Type

Nose and all edges rounded and shoulder of head removed.

No.....	201-5NE	201-6NE	201-7NE	201-8NE	201-9NE
Each.....	\$4.60	4.90	5.60	5.90	7.60
Wt., Doz. lb.	3	5¼	7¼	11¼	13½

No. 242-6 Klein's Oblique Cutting Pliers



Heavy pattern.

For use where it is not necessary to reach into confined spaces.

No. 242-6, 6 Inch, Weight per Doz., 4¼ Lb.....each	\$4.40
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No. 301 Klein's Long Nose Pliers

Without Cutters



For stripping insulated wire ends. Point, ⅜ inch round. *Extra longnose, 2¾ in.

No. 301-5, 5-Inch Size; Wt. per Doz., 3¼ Lb....each	\$3.40
No. 301-6, 6-Inch Size; Wt. per Doz., 3¾ Lb....each	3.70
*No. 301-7, 7-Inch Size; Wt. per Doz., 4¼ Lb....each	4.10

No. 203 Klein's Long Nose Side Cutting Pliers

With Cutting Knives

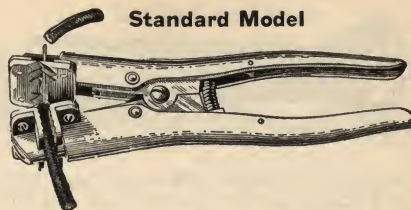


For stripping insulated wire ends. Point, ⅜ inch round. *Extra long nose, 2¾ in.

No. 203-5, 5-Inch Size; Wt. per Doz., 3¼ Lb....each	\$4.10
No. 203-6, 6-Inch Size; Wt. per Doz., 3¾ Lb....each	4.60
*No. 203-7, 7-Inch Size; Wt. per Doz., 4¼ Lb....each	5.00

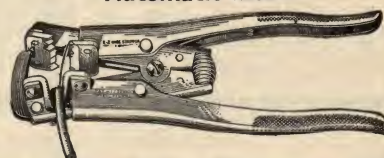
Ideal Wire Strippers

Standard Model



For stripping solid wires; also used for stranded wire. Cutting edges are shielded. Blind centers of the V-notches on blades prevent cutting or scarring of wire.

Automatic Model



For stripping stranded wire; used equally well on solid wire.

Lever stops return of arms until wire is removed after stripping, then they are quickly snapped back to normal. Lever will not operate unless wire with insulation .050 inch or larger is inserted between grippers. When no wire is inserted, lower gripper moves upward when handles are squeezed, pushing trigger and lever up and out of action.

Specifications

No.....	0	1	2	3
Standard Model.....each	\$5.00	\$5.00	\$5.00	\$5.00
Automatic Model.....each	6.00	6.00	6.00	....
For Stripping Solid or Stranded Wire.....gauge	20-30	12-18	10-16	8-10
Shipping Weight.....pounds	1½	1½	1½	1½
Extra Blades.....per set				\$.90

Todd Cutting Nippers



Cutter

Cutters are made of best tool steel and are interchangeable.

Heavy Pattern

No.	Length In.	Price Each	No.	Length In.	Price Each	No.	Length In.	Price Each
1	12	\$3.65	3	10	\$2.95	6	6	\$2.20
2	11	3.35	4	8	2.50

Extra Heavy Pattern

0	15	\$4.95	00	13	\$4.50	000	11	\$4.10
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Cutters

No.	Price per Pair	No.	Price per Pair	No.	Price per Pair	No.	Price per Pair
1	\$1.15	3	\$1.05	6	\$.80	00	\$1.30
2	1.05	4	.90	0	1.30	000	1.30

Carews Patent Wire Cutters



For every type of wire cutting work. Used by many industrial plants and public utilities.

Handles are drop-forged from high grade steel. Cutting jaws can be removed for re-grinding. Jaws are made of high carbon tool steel alloy, heat treated and hardened. Has adjustable stop-screw.

Can be supplied with jaws for cutting music wire and wire that has been specially hardened without extra cost.

Length..... inches	8	10	12	14
Each.....	\$4.40	\$4.85	\$5.65	\$6.80
Extra Jaws.....per pair	1.30	1.35	1.45	1.55
Weight Each.....pounds	1½	2	2½	3¼

V & B Carpenters' Pincers

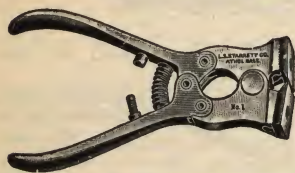


Refined steel, drop forged, tempered, and tested. Polished jaws and black painted handles. Claw and screw driver handles.

Packed 6 in cardboard box.

No.	206	207	208	210	212
Each	\$.86	.92	.96	1.16	1.36
Length.....inches	6	7	8	10	12
Weight per Dozen.....pounds	5	7½	9½	14	17

No. 1 Starrett Adjustable Jaw Cut-Nippers



Has detachable jaws which can be ground to ¼ inch; screw in jaw, which engages with spline in frame; adjustable screw and stud inside handles; flat spring below cutting edges and over joint.

Head and handles are drop-forged steel; all parts casehardened; jaws, tempered.

When ordering specify M for music wire, C for common use, and B for bicycle use.

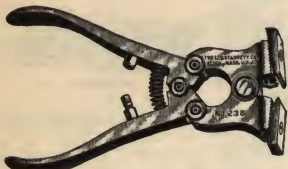
Cut-nippers sent with M jaws unless otherwise ordered.

Size.....inches	5½	7
No. 1, M, C, or B.....each	\$3.50	4.50
No. of Screws.....	1	2

Extras

Extra Jaws, for M, C, or B.....per pair	\$.60
Screws or Splines for Jaws.....per dozen	.30

No. 235 Starrett Tile Cutting Nippers



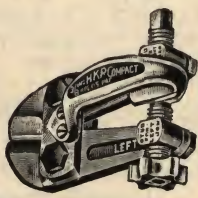
Frames are cut out to allow jaws to be adjusted for wide opening. Recommended for cutting tile. Jaws can be easily replaced when necessary.

Length....in.	5½	7
Price....each	\$3.50	4.50

Porter Compacts



End Compact



Angular Compact

Made with two styles of jaws—end and angular. One with the cutting edges at right angles to the tool—end jaw. The other with the cutting edges at an angle of 30°—angular jaw. Either of these tools may be used for cutting bolts, round rods, soft chains and for wedging off bolt heads or nuts which cannot be removed with a wrench. End Compact may be used for splitting nuts.

The power screw is easily turned by a ratchet wrench applied to a squared section (½-inch) at either end of the screw. It may be used either right or left handed. A removable adjusting wheel is furnished with each tool.

A ¾-in. Porter Compact measuring 7¾ in. in length has a cutting capacity of ⅜-in. bolt in the thread or ⅝-in. rod.

Approximate shipping weight each tool, 3¼ pounds.

Complete Tool.....each	\$8.50
Complete Cutterheads.....each	5.60
Jaws.....per pair	4.80

Porter Rigid and Swivel Type Bolt Clippers

End Cut—Angular Cut (Diagonal)



End Cutter

End and angular tools are generally used for clipping bolts and cutting soft rods. They differ from clipper and center cut tools principally in the shape of the cutting jaws, which are designed for special conditions where conventional type of cutting jaw is not ideal for the purpose.

Such jobs as require cutting at floor level or directly overhead indicate that the end cutter is best. Cutting on a vertical wall such as the close cutting of form wires indicates the use of the angular or diagonal cutter.



Angular Cutter

End Cutters

No.	Rigid Type Each	Swivel Type Each	*Complete Cutter-heads Each	*Jaws per Pair	APPROX. LENGTH TOOL, IN.	APPROX. LENGTH RIGID SWIVEL	CAP., IN. Annealed Bolts in Soft Rods	APPROX. WEIGHT RIGID SWIVEL POUNDS
14E	\$5.25		\$3.60	\$3.00	14		1¼ ⅜	2¼ 6½
24E	8.25	\$10.75	5.30	4.50	24	25	¾ ⅝	5½ 13
36E	13.50		8.30	7.30	36		⅝ ½	
Angular (Diagonal) Cutters								
14A	\$5.25		\$3.60	\$3.00	14		1¼ ⅜	2¼ 6½
24A	8.25	\$10.75	5.30	4.50	24	25	¾ ⅝	5¼ 6¾
36A	13.50		8.30	7.30	36		⅝ ½	13

*Same jaws and heads can be used for either rigid or swivel.

Porter Rigid and Swivel Type Bolt Clippers

Clipper Cut—Center Cut



Rigid Type



Swivel Type

The swivel type flexible bolt clipper permits cutting at any desired angle. This is made possible by ball and socket joints and a positioning spring. The cutting jaws of rigid type clipper cut and center cut clippers are firmly fixed in line with the handles.

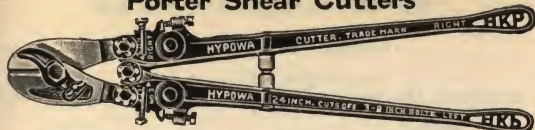
Clipper cut jaws are beveled almost entirely from one side for close cutting. Center cut jaws are beveled equally, bringing cutting edge at center of jaw. Clipper cut regularly furnished.

Rigid Type

No.	Clipper Cut Each	Center Cut Each	*Complete Cutterheads Each	*Jaws per Pair	Approx. Length of Tool, In.	Approx. Length of nealed Bolts in Soft Rods	Approx. Wt. Lbs.
100K	\$4.00	\$4.25	\$2.50	\$2.70	\$2.20	10 ⅜	1½
140K	4.50	4.75	2.80	3.00	2.20	14 ⅜	2¼
ONE	5.50	5.75	3.20	3.40	2.50	18 ⅝	3¼
1NE	7.00	7.25	4.00	4.30	3.20	24 ⅝	5¼
2NE	8.75	9.00	4.90	5.30	4.00	30 ⅝	8½
3NE	11.25	11.75	6.00	6.50	5.00	36 ⅝	12½
4AR	15.50	16.50	8.00	9.00	6.80	42 ⅝	17¾
Swivel Type							
ONE	\$7.75	\$8.00	\$3.20	\$3.40	\$2.50	19 ⅝	4
1NE	9.50	9.75	4.00	4.30	3.20	25 ⅝	6¼
2NE	11.75	12.00	4.90	5.30	4.00	31 ⅝	9¾

*Same jaws and heads can be used for either rigid or swivel.

Porter Shear Cutters

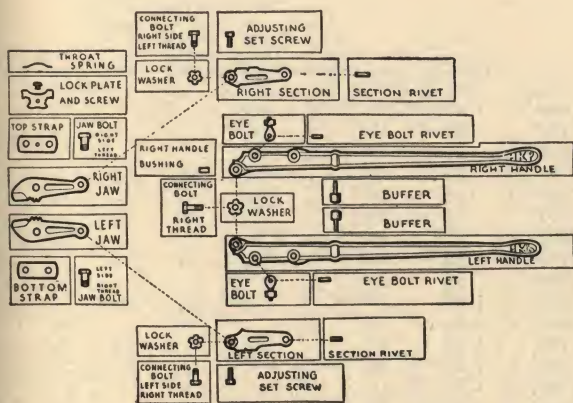


A shear cutting tool for flat bars, strips and wire cable. Makes a clean shear cut without excessive compression or distortion of material. Leaves no ragged or frayed edges.

As portable and as easily operated as a bolt clipper and embodying the Porter toggle and lever joint construction developing great power with a minimum of friction loss.

No.	Comp. Tool Each	Comp. Cutter-Heads Each	Jaws per Pair	Lgth. Tool In.	To Cut, INCHES—					Wt. Lbs.
					Soft Wire Cable	Hard Rope & Stranded Guy	Soft Wire	Soft Rods & Wires	Soft Bars	
14T	\$7.50	\$5.80	\$5.30	14	5/16	3/16	3/16	7/8x5/32	2 1/4	2 1/4
24T	11.00	7.90	7.30	24	7/16	5/16	9/32	1 1/4x7/32	5 1/4	5 1/4
36T	15.50	10.30	9.60	36	5/8	1/2	3/8	1 1/2x9/32	11 3/4	11 3/4

Porter New Easy Bolt Clipper Repairs



New Easy Style, Rigid Type

In ordering parts it is necessary to give size and name of part of tool.

Description	No. 0 Size	No. 1 Size	No. 2 Size	No. 3 Size
Jaws, Clipper Cut..... per pair	\$2.50	\$3.20	\$4.00	\$5.00
Jaws, Center Cut..... per pair	2.70	3.50	4.40	5.50
Jaws, Nut Splitter..... per pair	3.20	4.10	5.10	6.30
Jaws, Soft Chain..... per pair	3.00	3.90	4.90	6.10
Jaws, Hard Chain..... per pair	3.00	3.90	4.90	6.10
Bottom Strap..... each	.55	.60	.65	.75
Bottom Strap for Fireman's Cutter..... each	4.25	11.00	11.50	
Top Strap..... each	.55	.60	.65	.75
Lock Plate..... each	.15	.16	.17	.18
Lock Plate Screw... per 1/2 doz.	.30	.30	.30	.30
Jaw Bolt, Left Side..... each	.20	.25	.30	.35
Jaw Bolt, Right Side..... each	.20	.25	.30	.35
Throat Spring..... each	.07	.08	.09	.10
Handle, Left (No Parts)..... each	1.00	1.35	1.65	2.30
Handle, Right (No Parts)..... each	1.00	1.35	1.65	2.30
Handle Bushing..... each	.13	.15	.18	.21
Pair Handles (Comp.)... per pair	3.70	4.50	5.50	7.00
Adjusting Section, Left and Rivet..... each	.55	.60	.70	.80
Adjusting Section, Right and Rivet..... each	.55	.60	.70	.80
Section Adjusting Screw..... each	.15	.16	.18	.20
Conn. Bolt, between Handles, Right Thread..... each	.15	.16	.18	.20
Conn. Bolt, Right Thread..... each	.15	.16	.18	.20
Conn. Bolt, Left Thread..... each	.15	.16	.18	.20
Conn. Bolt Lock Washer per doz.	.35	.38	.41	.44
Eyebolt, Nut and Rivet per pair	.42	.48	.54	.60
Buffer, Washer and Rivet..... per pair	.30	.32	.34	.36
Automatic Hook..... each	2.75	4.00	4.50	

Porter Rigid and Swivel Type Nut Splitters

End and Side Types



Side Type



For nut splitting only. When the operation is completed, the cutting edges remain separated sufficiently so that no damage is done to the bolt if tool is properly used.

Nut splitters are valuable in dismantling work, especially where the nuts are rusted or have been peened over. These tools cannot be used for clipping bolts or cutting rods or other materials.

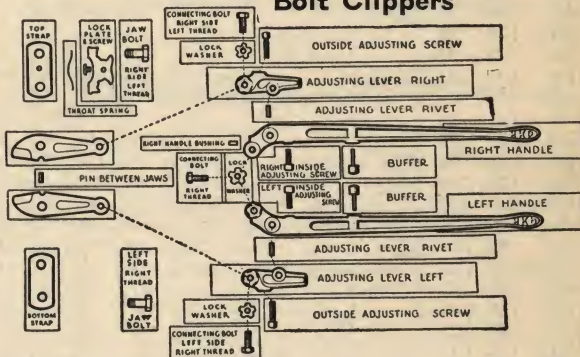
End Type

Side Cutters

No.	Rigid Type Each	Swivel Type Each	*Complete Cutter-heads Each	*Jaws per Pair	APPROX. LENGTH INCHES		Cap. to Split Nuts of Diam.	APPROX. WEIGHT POUNDS	
					Rigid	Swivel		Rigid	Swivel
14SS	\$5.25	...	\$3.40	\$2.80	14	...	1/4	2 1/4	...
0SS	6.25	\$8.50	3.90	3.20	18	19	5/16	3 1/4	4
1SS	7.75	10.25	4.90	4.10	24	25	3/8	5	6
2SS	9.50	12.50	6.00	5.10	30	31	1/2	8 1/4	9 3/4
3SS	12.50	...	7.30	6.30	36	...	5/8	12 1/4	...
4SS	17.50	...	9.90	8.70	42	...	3/4	17 1/4	...
End Cutters									
14N	\$5.50	...	\$3.80	\$3.20	14	...	1/4	2 1/4	...
24N	8.50	\$11.25	5.60	4.80	24	25	3/8	5 1/2	6 1/2
36N	14.25	...	8.70	7.70	36	...	5/8	13	...

*Same heads and jaws used for either type.

Repairs for No. 4 Porter Allen-Randall Bolt Clippers



Right or Left Cutting Jaw..... each	\$3.40
Top or Bottom Strap..... each	1.00
Jaw Bolt, Left Side, Right Thread..... each	.40
Jaw Bolt, Right Side, Left Thread..... each	.40
Lock Plate..... each	.30
Lock Plate Screws..... per 6	.30
Cutterhead, Less Jaws..... each	2.30
Pin Between Jaws..... each	.15
Throat Spring..... each	.10
Handle, Left or Right, No Parts..... each	3.50
Handle Bushing..... each	.24
Handle, Complete..... each	4.90
Handle, Pairs, Complete..... per pair	9.75
Adjusting Section, Left, and Rivet..... each	.90
Adjusting Section, Right, and Rivet..... each	.90
Conn. Bolt, between Handles, Right Thread..... each	.24
Conn. Bolt, Left Side, Right Thread..... each	.24
Conn. Bolt, Right Side, Left Thread..... each	.24
Conn. Bolt Lock Washer..... per dozen	.48
Section Adjusting Screw..... each	.30
Handle Adjusting Screw..... each	.25
Buffer, Washer and Rivet..... per pair	.45

Williams' Engineers' Pattern "Superrenches"

Chrome-Molybdenum—15° Angle—Double Head



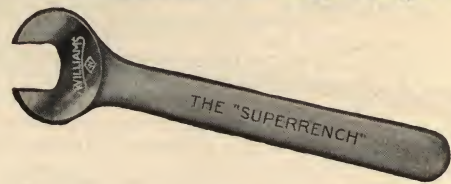
Particularly serviceable in close, cramped quarters where clearance is limited. No bulk in the head to interfere where clearance is limited. Jaws are long, thin, and pointed. With the 15° angle of the openings a hex nut can be rotated completely where the swing of the wrench is limited to only 30°. Forged from chrome-molybdenum steel, heat treated and furnished either finished, chrome-plated with heads buffed bright, or unfinished, gray enameled all over, heads not bright.

No.	Chrome Fin. Each	Unfin. Each	For U.S. Std. Nuts Size Bolts In.	For Hex. Hd. Cap Screws Diameter Screws Inches	For S.A.E. Std. Nuts and Cap Screws Diam. Screws Inches	For Amer. Std. Nuts Reg. & Jam Size Bolts Inches	Ex-treme Open. In.	Nom. Thick. Head In.
1721	.58	.40	1/8	1/8, 3/16	.....	.....	4 1/2	5/16, 3/8
1021	.58	.40	1/8	1/8, 3/16	.....	.....	4 1/2	5/16, 3/8
1722	.58	.40	1/8	1/8, 1/4	.....	1/4	4 7/8	5/16, 7/16
1723	.58	.40	.....	3/16, 1/4	.....	1/4	4 7/8	3/8, 7/16
1022	.69	.50	1/8, 1/4	1/8, 3/16	.....	.....	5 1/4	5/16, 1/2
1023	.69	.50	3/16, 1/4	3/16, 1/4	.....	.....	5 1/4	13/32, 1/2
1723A	.69	.50	1/4	3/16, 1/4	.....	.....	5 1/4	3/8, 1/2
1024	.82	.61	3/16, 3/16	.....	.....	.....	5 5/8	13/32, 1/2
1725	.82	.61	1/4	1/4, 3/8	.....	1/4	5 5/8	7/16, 1/2
1725A	.82	.61	.....	1/4, 3/8	.....	1/4, 5/16	5 5/8	7/16, 1/2
1025A	.82	.61	.....	1/4, 3/8	.....	1/4, 5/16	5 5/8	7/16, 1/2
1725B	.82	.61	1/4	1/4, 3/8	.....	1/4, 5/16	5 5/8	7/16, 1/2
1025	.82	.61	1/4, 5/16	1/4, 3/8	.....	.....	6 1/8	1/2, 5/8
1726	1.00	.74	1/4, 5/16	1/4, 3/8	.....	.....	6 1/8	1/2, 5/8
1026	1.00	.74	1/4, 3/8	1/4, 3/8	.....	.....	6 5/8	1/2, 11/16
1727	1.00	.74	.....	3/8, 7/16	.....	5/16, 3/8	6 5/8	1/2, 11/16
1027	1.00	.74	5/16, 3/8	3/8, 7/16	.....	.....	7 1/4	9/16, 5/8
1027C	1.00	.74	3/8	3/8	.....	5/16	7 1/4	9/16, 11/16
1728	1.24	.94	3/8, 1/2	3/8, 1/2	.....	5/16, 7/16	7 7/8	1 1/2, 1 1/16
1028	1.24	.94	5/16, 7/16	3/8, 1/2	.....	.....	7 7/8	1 1/2, 1 1/16
1028S	1.24	.94	7/16	7/16	.....	3/8	7 7/8	1 1/2, 1 1/16
1729	1.24	.94	7/16, 1/2	7/16, 1/2	.....	3/8, 7/16	8 1/2	1 1/2, 1 1/16
1029	1.24	.94	3/8, 7/16	3/8, 7/16	.....	.....	8 1/2	1 1/2, 1 1/16
1730	1.24	.94	7/16, 1/2	7/16, 1/2	.....	3/8, 1/2	8 1/2	1 1/2, 1 1/16
1030	1.24	.94	3/8, 1/2	3/8, 1/2	.....	.....	8 1/2	1 1/2, 1 1/16
1731	1.65	1.25	1/2, 3/4	1/2, 3/4	.....	7/16, 1/2	9 1/4	1 3/4, 1 1/2
1731A	1.65	1.25	1/2	1/2, 3/4	.....	7/16, 1/2	9 1/4	1 3/4, 1 1/2
1031	1.65	1.25	7/16, 1/2	7/16, 1/2	.....	7/16, 1/2	9 1/4	1 3/4, 1 1/2
1731B	1.65	1.25	7/16, 1/2	7/16, 1/2	.....	7/16, 1/2	9 1/4	1 3/4, 1 1/2
1032	1.65	1.25	7/16, 1/2	7/16, 1/2	.....	7/16, 1/2	9 1/4	1 3/4, 1 1/2
1732A	1.65	1.25	1/2, 3/4	1/2, 3/4	.....	7/16, 1/2	10	1 3/4, 1 1/2
1732	1.65	1.25	1/2, 3/4	1/2, 3/4	.....	7/16, 1/2	10	1 3/4, 1 1/2
1033A	1.65	1.25	1/2, 3/4	1/2, 3/4	.....	7/16, 1/2	10	1 3/4, 1 1/2
1033	1.65	1.25	1/2, 3/4	1/2, 3/4	.....	7/16, 1/2	10	1 3/4, 1 1/2
1733	2.25	1.70	1/2, 3/4	1/2, 3/4	.....	7/16, 1/2	10 7/8	1 3/4, 1 1/2
1033C	2.25	1.70	1/2, 3/4	1/2, 3/4	.....	7/16, 1/2	10 7/8	1 3/4, 1 1/2
1034A	2.25	1.70	1/2, 3/4	1/2, 3/4	.....	7/16, 1/2	10 7/8	1 3/4, 1 1/2
1034	2.25	1.70	1/2, 3/4	1/2, 3/4	.....	7/16, 1/2	10 7/8	1 3/4, 1 1/2
1734	2.25	1.70	1/2, 3/4	1/2, 3/4	.....	7/16, 1/2	10 7/8	1 3/4, 1 1/2
1035	2.25	1.70	1/2, 3/4	1/2, 3/4	.....	7/16, 1/2	10 7/8	1 3/4, 1 1/2
1735	3.15	2.45	3/4, 7/8	3/4, 7/8	.....	7/8, 1	12 3/4	1 3/4, 1 1/2
1036	3.15	2.45	3/4, 7/8	3/4, 7/8	.....	7/8, 1	12 3/4	1 3/4, 1 1/2
1736	3.15	2.45	3/4, 7/8	3/4, 7/8	.....	7/8, 1	12 3/4	1 3/4, 1 1/2
1736A	3.15	2.45	3/4, 7/8	3/4, 7/8	.....	7/8, 1	12 3/4	1 3/4, 1 1/2
1037	3.15	2.45	3/4, 7/8	3/4, 7/8	.....	7/8, 1	12 3/4	1 3/4, 1 1/2
1737	3.15	2.45	3/4, 7/8	3/4, 7/8	.....	7/8, 1	12 3/4	1 3/4, 1 1/2
1037A	3.15	2.45	3/4, 7/8	3/4, 7/8	.....	7/8, 1	12 3/4	1 3/4, 1 1/2
1038	4.90	3.85	7/8, 1	7/8, 1	.....	7/8, 1	14	1 3/4, 1 1/2
1738	4.90	3.85	7/8, 1	7/8, 1	.....	7/8, 1	14	1 3/4, 1 1/2
1739	4.90	3.85	7/8, 1	7/8, 1	.....	7/8, 1	14	1 3/4, 1 1/2
1039	4.90	3.85	7/8, 1	7/8, 1	.....	7/8, 1	14	1 3/4, 1 1/2
1739A	4.90	3.85	7/8, 1	7/8, 1	.....	7/8, 1	14	1 3/4, 1 1/2
1739B	4.90	3.85	7/8, 1	7/8, 1	.....	7/8, 1	14	1 3/4, 1 1/2
1040	4.90	3.85	7/8, 1	7/8, 1	.....	7/8, 1	14	1 3/4, 1 1/2
1041	8.80	6.95	7/8, 1	7/8, 1	.....	7/8, 1	15 3/4	1 3/4, 1 1/2

Williams' "Superrenches"

Engineers' Pattern

Chrome-Molybdenum—15° Angle—Single Head



Forged from chrome-molybdenum steel, heat-treated.

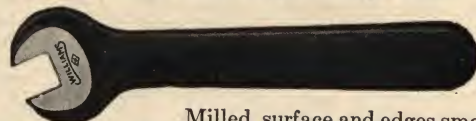
Furnished either finished, chrome-plated over nickel, heads buffed bright, or unfinished, baked gray enameled, heads not bright.

Fully guaranteed.

No.	Chrome-Finished Each	Un-finished Each	For U.S. Std. Nut Size Bolt In.	For Hex. Hd. Cap Screw Diameter In.	For S.A.E. Std. Nut Size Bolt In.	American Std. Nuts Regular and Cap and Jam; Size Bolts In.	Nominal Opening In.	Thick. Head In.
1000	.47	.33	1/8	1/8	.....	.....	5/16	7/32
1700	.47	.33	.....	3/16	.....	.....	3/8	1/4
1000A	.47	.33	3/16	.....	.....	.....	13/32	1/2
1701	.56	.39	.....	1/4	1/4	1/4	7/16	9/32
1001	.56	.39	1/4	3/16	3/16	.....	1/2	.....
1702	.70	.50	.....	3/8	3/8	5/16	9/16	5/16
1002	.70	.50	5/16	.....	.....	.....	19/32	5/16
1703	.85	.62	.....	7/16	7/16	3/8	5/8	11/32
1003	.85	.62	3/8	.....	.....	.....	11/16	.....
1704	1.05	.78	.....	1/2	1/2	7/16	3/4	3/8
1004	1.05	.78	7/16	.....	.....	.....	23/32	7/16
1705	1.25	.96	.....	9/16	9/16	1/2	13/16	.....
1005	1.25	.96	1/2	5/8	5/8	9/16	7/8	.....
1006A	1.50	1.16	.....	.....	.....	.....	15/16	1/2
1006	1.50	1.16	9/16	.....	.....	.....	31/32	.....
1706	1.50	1.16	.....	3/4	3/4	5/8	1	1 1/2
1007	1.88	1.47	.....	5/8	5/8	11/16	1 1/16	9/16
1707	1.88	1.47	.....	7/8	7/8	3/4	1 1/8	.....
1008	2.50	2.00	3/4	.....	7/8	.....	1 1/4	5/8
1008A	2.50	2.00	1	.....	.....	.....	1 1/2	23/32
1009	3.80	3.05	7/8	1	1	7/8	1 3/4	1 1/16
1709	3.80	3.05	.....	1 1/8	1 1/8	1	1 1/2	25/32
1010	5.30	4.30	1	.....	1 1/8	.....	1 3/4	1 1/16
1010A	5.30	4.30	1 1/4	.....	1 1/8	1 1/8	1 11/16	25/32
1011	6.90	5.65	1 1/8	.....	1 1/4	1 1/4	1 13/16	7/8
1011A	6.90	5.65	.....	.....	1 1/4	1 1/4	1 7/8	.....
1012	9.40	7.90	1 1/4	.....	1 3/8	.....	2	15/16
1012A	9.40	7.90	.....	.....	1 3/8	1 3/8	2 1/16	1 1/16
1013	12.15	10.35	1 3/8	.....	1 1/2	.....	2 3/16	1
1013A	12.15	10.35	.....	.....	1 1/2	1 1/2	2 1/4	.....
1014	15.30	13.00	1 1/2	.....	.....	.....	2 3/8	1 1/16
1014A	15.30	13.00	.....	.....	.....	1 5/8	2 1/16	1 1/16

Williams' Superior Drop Forged Wrenches

For Set or Cap Screws
Carbon Steel—22 1/2° Angle—Single Head



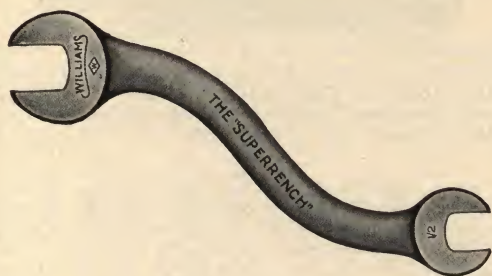
Milled, surface and edges smoothed, size stamped on heads, hardened and black enameled (baked on); heads bright.

No.	Fin-ished Each	For Set Screw Inches	Cap Screw Length In.	No.	Fin-ished Each	For Set Screw Inches	Cap Screw Length In.
500	.28	3/16	3	506	.92	9/16	7 1/2
501	.34	1/4	3 1/2	507	1.10	5/8	8 1/2
502	.42	5/16	4 1/4	508	1.36	3/4	9 1/2
503	.50	3/8	5	509	1.68	7/8	10 1/2
504	.62	7/16	5 3/4	510	2.20	1	11 1/2
505	.76	1/2	6 5/8	511	2.80	1 1/8	12 1/2

Williams' "Superrenches"

General Service Pattern

Chrome-Molybdenum



Fully Guaranteed. Furnished heat-treated, chrome-finished, heads bright.

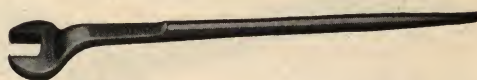
Packed 6 in a box.

No.	Chrome Fin- ished Each	For U.S. Std. Nuts; Size Bolts	For Hex. Head Cap Screws; Diam. Screws	For S.A.E. Std. Nuts and Cap Screws; Size Bolts	For Amer. Std. Nuts, Regular and Jam	Nominal Open- ings In.
1075B	\$.93	.....	$\frac{3}{16}$ & $\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{3}{8}$ & $\frac{7}{16}$
1075A	.93	$\frac{1}{4}$	$\frac{3}{16}$ & $\frac{3}{16}$	$\frac{3}{16}$	.....	$\frac{3}{8}$ & $\frac{1}{2}$
1075	.93	$\frac{3}{16}$ & $\frac{1}{4}$	$\frac{5}{16}$	$\frac{5}{16}$	.....	$\frac{13}{32}$ & $\frac{1}{2}$
1077S	1.18	$\frac{1}{4}$	$\frac{1}{4}$ & $\frac{5}{16}$	$\frac{1}{4}$ & $\frac{5}{16}$	$\frac{1}{4}$	$\frac{7}{16}$ & $\frac{1}{2}$
1077C	1.18	.....	$\frac{1}{4}$ & $\frac{3}{8}$	$\frac{1}{4}$ & $\frac{3}{8}$	$\frac{1}{4}$ & $\frac{5}{16}$	$\frac{7}{16}$ & $\frac{9}{16}$
1077E	1.18	.....	$\frac{1}{4}$ & $\frac{7}{16}$	$\frac{1}{4}$ & $\frac{7}{16}$	$\frac{1}{4}$ & $\frac{3}{8}$	$\frac{7}{16}$ & $\frac{5}{8}$
1077B	1.18	$\frac{1}{4}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{5}{16}$	$\frac{1}{2}$ & $\frac{9}{16}$
1077	1.18	$\frac{1}{4}$	$\frac{3}{16}$ & $\frac{7}{16}$	$\frac{3}{16}$ & $\frac{7}{16}$	$\frac{3}{8}$	$\frac{1}{2}$ & $\frac{5}{8}$
1079B	1.45	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{5}{16}$	$\frac{9}{16}$ & $\frac{19}{32}$
1079S	1.45	.....	$\frac{3}{8}$ & $\frac{7}{16}$	$\frac{3}{8}$ & $\frac{7}{16}$	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{9}{16}$ & $\frac{5}{8}$
1079A	1.45	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{9}{16}$ & $\frac{11}{16}$	$\frac{9}{16}$ & $\frac{11}{16}$
1079E	1.45	.....	$\frac{3}{8}$ & $\frac{1}{2}$	$\frac{3}{8}$ & $\frac{1}{2}$	$\frac{5}{16}$ & $\frac{7}{16}$	$\frac{9}{16}$ & $\frac{3}{4}$
1079	1.45	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{7}{16}$	$\frac{3}{8}$	$\frac{5}{8}$ & $\frac{11}{16}$
1079C	1.45	.....	$\frac{7}{16}$ & $\frac{1}{2}$	$\frac{7}{16}$ & $\frac{1}{2}$	$\frac{3}{8}$ & $\frac{7}{16}$	$\frac{5}{8}$ & $\frac{3}{4}$
1081H	1.75	.....	$\frac{7}{16}$ & $\frac{9}{16}$	$\frac{7}{16}$	$\frac{3}{8}$ & $\frac{1}{2}$	$\frac{5}{8}$ & $\frac{13}{16}$
1081	1.75	$\frac{3}{8}$	.....	.....	$\frac{11}{16}$ & $\frac{27}{32}$	$\frac{11}{16}$ & $\frac{27}{32}$
1081B	1.75	.....	$\frac{1}{2}$ & $\frac{3}{16}$	$\frac{1}{2}$	$\frac{7}{16}$ & $\frac{1}{2}$	$\frac{3}{4}$ & $\frac{13}{16}$
1081A	1.75	$\frac{1}{2}$	$\frac{1}{2}$ & $\frac{5}{8}$	$\frac{1}{2}$ & $\frac{9}{16}$	$\frac{7}{16}$ & $\frac{9}{16}$	$\frac{3}{4}$ & $\frac{7}{8}$
1083K	2.30	$\frac{1}{2}$	$\frac{3}{16}$ & $\frac{5}{8}$	$\frac{9}{16}$	$\frac{1}{2}$ & $\frac{9}{16}$	$\frac{13}{16}$ & $\frac{7}{8}$
1083J	2.30	.....	$\frac{9}{16}$ & $\frac{3}{4}$	$\frac{11}{16}$	$\frac{1}{2}$ & $\frac{5}{8}$	$\frac{13}{16}$ & $\frac{1}{2}$
1083	2.30	.....	.....	$\frac{5}{8}$	.....	$\frac{27}{32}$ & $\frac{15}{16}$
1083B	2.30	$\frac{1}{2}$	$\frac{5}{8}$ & $\frac{3}{4}$	$\frac{9}{16}$ & $\frac{11}{16}$	$\frac{9}{16}$ & $\frac{5}{8}$	$\frac{7}{8}$ & $\frac{1}{2}$
1083A	2.30	.....	$\frac{3}{4}$	$\frac{5}{8}$ & $\frac{11}{16}$	$\frac{5}{8}$	$\frac{15}{16}$ & $\frac{1}{2}$
1085H	3.30	$\frac{1}{2}$	$\frac{5}{8}$ & $\frac{7}{8}$	$\frac{9}{16}$	$\frac{9}{16}$ & $\frac{3}{4}$	$\frac{7}{8}$ & $\frac{11}{16}$
1085	3.30	.....	$\frac{5}{8}$ & $\frac{7}{8}$	$\frac{11}{16}$	$\frac{5}{8}$ & $\frac{3}{4}$	1 & $\frac{11}{16}$
1085J	3.30	.....	$\frac{3}{4}$ & 1	$\frac{11}{16}$	$\frac{5}{8}$ & $\frac{7}{8}$	1 & $\frac{15}{16}$
1085C	3.30	$\frac{5}{8}$ & $\frac{3}{4}$	.....	$\frac{3}{4}$ & $\frac{7}{8}$	.....	$\frac{11}{16}$ & $\frac{1}{2}$
1085B	3.30	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{7}{8}$	$\frac{3}{4}$	$\frac{11}{16}$ & $\frac{1}{2}$
1085K	3.30	.....	$\frac{7}{8}$ & 1	.....	$\frac{3}{4}$ & $\frac{7}{8}$	$\frac{11}{16}$ & $\frac{15}{16}$

Williams' "Superrenches"

Chrome-Molybdenum

Structural Pattern—Straight Opening



Jaws are narrow and long. Handle is round with tapered end for easy insertion in bolt holes. Abrupt offset and angle of handle provide for clearance of obstructions.

Heat-treated and baked gray enamel. Fully guaranteed.

No.	Each	For U.S. Std. Nut Size Bolt In.	For Amer. Std. Reg. Nut Size Bolt In.	Nom. Open- ing In.	Ex- treme Length Approx. In.	Thick. Head In.	HANDLE OFFSET, IN. At Head At End
1903A	\$1.68	.....	$\frac{3}{8}$	$\frac{5}{8}$	12	$\frac{7}{16}$	$\frac{3}{4}$ $\frac{11}{16}$
1903	1.68	$\frac{3}{8}$	.....	$\frac{11}{16}$	12	$\frac{7}{16}$	$\frac{3}{4}$ $\frac{11}{16}$
1905A	2.25	.....	$\frac{1}{2}$	$\frac{13}{16}$	$14\frac{1}{2}$	$\frac{17}{32}$	$\frac{7}{8}$ $\frac{17}{8}$
1905	2.25	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{7}{8}$	$14\frac{1}{2}$	$\frac{17}{32}$	$\frac{7}{8}$ $\frac{17}{8}$
1906	2.25	$\frac{9}{16}$	.....	$\frac{31}{32}$	$14\frac{1}{2}$	$\frac{17}{32}$	$\frac{7}{8}$ $\frac{17}{8}$
1906	2.25	.....	$\frac{5}{8}$	1	$14\frac{1}{2}$	$\frac{17}{32}$	$\frac{7}{8}$ $\frac{17}{8}$
1907	3.15	$\frac{5}{8}$	.....	$\frac{11}{16}$	17	$\frac{5}{8}$	1 $\frac{23}{8}$
1907A	3.15	.....	$\frac{3}{4}$	$\frac{11}{8}$	17	$\frac{5}{8}$	1 $\frac{23}{8}$
1908	4.25	$\frac{3}{4}$	.....	$\frac{11}{4}$	19	$\frac{11}{16}$	$\frac{11}{8}$ $\frac{23}{4}$
1908A	4.25	.....	$\frac{7}{8}$	$\frac{13}{16}$	19	$\frac{11}{16}$	$\frac{11}{8}$ $\frac{23}{4}$
1909	5.85	$\frac{7}{8}$	.....	$\frac{17}{16}$	21	$\frac{3}{4}$	$\frac{11}{4}$ $\frac{31}{16}$
1909	5.85	.....	1	$\frac{1}{2}$	21	$\frac{3}{4}$	$\frac{11}{4}$ $\frac{31}{16}$
1910	8.10	1	.....	$\frac{15}{8}$	23	$\frac{13}{16}$	$\frac{17}{16}$ $\frac{33}{8}$
1910	8.10	.....	$\frac{11}{8}$	$\frac{11}{16}$	23	$\frac{13}{16}$	$\frac{17}{16}$ $\frac{33}{8}$
1911	12.25	$\frac{11}{8}$	.....	$\frac{11}{16}$	25	$\frac{7}{8}$	$\frac{15}{8}$ $\frac{31}{16}$
1911	12.25	.....	$\frac{11}{4}$	$\frac{17}{8}$	25	$\frac{7}{8}$	$\frac{15}{8}$ $\frac{31}{16}$
1912	12.25	$\frac{11}{4}$	.....	*2	25	$\frac{7}{8}$	$\frac{15}{8}$ $\frac{31}{16}$

*Based on U.S.S. nut formula. Actual openings are $\frac{1}{32}$ to $\frac{1}{16}$ inch larger for proper clearance on rough nuts and bolts.

Williams' "Superrenches"

Chrome-Molybdenum—Construction Pattern—
15° Angle

Particularly serviceable on anchor nuts, Bendix brakes, axle-shaft nuts, bumper bolts and nuts, on bus and truck, frame members, king-bolts and nuts, spring-clip U bolt nuts, spring-shackle bolts and nuts, tire and luggage carrier bolts and nuts on bus and truck, etc.

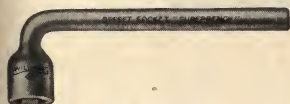
The long, narrow jaws give substantially full bearing on square nuts. The round handle has tapered end for easy insertion into bolt holes when bringing them into line.

Drop-forged from chrome-molybdenum steel, heat-treated, and finished in baked gray enamel all over.

No.	Each	For U.S. Std. Nut Size Bolt In.	For Amer. Std. Reg. Nut Size Bolt In.	Nominal Opening In.	Extreme Length Approx. In.	Thick. Head In.
1203A	\$1.43	.....	$\frac{3}{8}$	$\frac{5}{8}$	12	$\frac{7}{16}$
1203	1.43	$\frac{3}{8}$	.....	$\frac{11}{16}$	12	$\frac{7}{16}$
1205A	1.86	.....	$\frac{1}{2}$	$\frac{13}{16}$	$14\frac{1}{2}$	$\frac{17}{32}$
1205	1.86	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{7}{8}$	$14\frac{1}{2}$	$\frac{17}{32}$
1206B	1.86	.....	$\frac{5}{8}$	1	$14\frac{1}{2}$	$\frac{17}{32}$
1207	2.60	$\frac{5}{8}$	.....	$\frac{11}{16}$	17	$\frac{5}{8}$
1207A	2.60	.....	$\frac{3}{4}$	$\frac{11}{8}$	17	$\frac{5}{8}$
1208	3.50	$\frac{3}{4}$	.....	$\frac{11}{4}$	19	$\frac{11}{16}$
1208A	3.50	.....	$\frac{7}{8}$	$\frac{13}{16}$	19	$\frac{11}{16}$
1209	4.80	$\frac{7}{8}$	.....	$\frac{17}{16}$	21	$\frac{3}{4}$
1209A	4.80	.....	1	$\frac{1}{2}$	21	$\frac{3}{4}$
1210	6.80	1	.....	$\frac{15}{8}$	23	$\frac{27}{32}$
1211	10.00	$\frac{11}{8}$	.....	$\frac{11}{16}$	25	$\frac{15}{16}$
1212	10.00	$\frac{11}{4}$	.....	2	25	$\frac{15}{16}$

Williams' Offset Socket Superrenches

Chrome-Molybdenum



Heavy design, adapted to cracking-unit service in oil refineries.

Heat-treated; cadmium plated.

No.	Cadmium Plated Each	U.S. Std. Nut In.	S.A.E. Std. Nut In.	Opening Across Flats In.	Diameter Head In.	Ex- treme Lgth. In.	Handle Offset In.
2273	\$4.80	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{11}{16}$	$\frac{13}{4}$	$\frac{115}{8}$	$\frac{23}{4}$
2274	5.40	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{11}{4}$	2	$\frac{123}{8}$	$\frac{27}{8}$
2276	6.50	$\frac{7}{8}$	1	$\frac{17}{16}$	$\frac{21}{4}$	$\frac{147}{8}$	$\frac{31}{2}$
2277	7.75	1	$\frac{11}{8}$	$\frac{15}{8}$	$\frac{21}{2}$	$\frac{161}{2}$	$\frac{37}{8}$
2278	9.25	$\frac{11}{8}$	$\frac{13}{8}$	$\frac{113}{16}$	$\frac{23}{4}$	$\frac{181}{4}$	$\frac{43}{8}$
2279	11.00	$\frac{11}{4}$	$\frac{13}{4}$	2	3	20	$\frac{47}{8}$
2280	14.00	$\frac{13}{8}$	$\frac{17}{8}$	$\frac{23}{16}$	$\frac{33}{16}$	$\frac{213}{4}$	$\frac{53}{8}$
2280A	14.00	$\frac{11}{2}$	.....	$\frac{23}{8}$	$\frac{33}{8}$	$\frac{213}{4}$	$\frac{53}{8}$

Williams' Superrenches

Chrome-Molybdenum—15° Angle Double Head
Extra Long, Thin Pattern



Fully guaranteed. Chrome-plated; heads buffed bright.

No.	Chrome Fin- ished Each	Nominal Openings Inches	For U. S. Std. Nuts; Size Bolts	For S.A.E. Std. Nuts; Size Bolts	Amer. Std. Nuts; Regular and Jam	Extreme Thick. Length Head Inches
1090A	\$.76	3/8, 7/16	.....	1/4	*No. 10, 1/4	8 5/32
1090B	.76	13/32, 1/2	3/16, 1/4	5/16	.....	8 5/32
1090	.76	7/16, 1/2	1/4	5/16	1/4	8 5/32
1090C	.76	7/16, 9/16	.....	1/4, 3/8	1/4, 5/16	8 5/32
1090F	.76	1/2, 17/32	1/4	5/16	.....	8 5/32
1090D	.76	1/2, 9/16	1/4	5/16, 3/8	5/16	8 5/32
1090E	.76	1/2, 19/32	1/4, 5/16	5/16	.....	8 5/32
1092B	.82	1/2, 11/16	1/4, 3/8	5/16	.....	8 5/16
1092	.82	9/16, 5/8	.....	3/8, 7/16	5/16, 3/8	8 5/16
1092C	.82	9/16, 21/32	.....	3/8	5/16	8 5/16
1092D	.82	19/32, 11/16	5/16, 3/8	.....	.....	8 5/16
1092F	.82	5/8, 11/16	3/8	7/16	3/8	8 5/16
1094A	.88	5/8, 3/4	.....	7/16, 1/2	3/8, 7/16	9 1/32
1094B	.88	19/32, 25/32	5/16, 7/16	.....	.....	9 1/32
1094D	.88	11/16, 25/32	3/8, 7/16	.....	.....	9 1/32
1094F	.88	11/16, 7/8	3/8, 1/2	9/16	.....	9 1/32
1094G	.88	3/4, 13/16	.....	1/2	7/16, 1/2	9 1/32
1094	.88	3/4, 7/8	1/2	9/16	7/16, 9/16	9 1/32
1096A	1.06	25/32, 7/8	7/16, 1/2	9/16	.....	9 1/32
1096B	1.06	25/32, 31/32	7/16, 9/16	.....	.....	9 1/32
1096F	1.06	7/8, 31/32	1/2, 9/16	9/16	.....	9 1/32
1096H	1.06	7/8, 11/16	1/2, 5/8	9/16, 3/4	9/16	9 1/32
1096	1.06	15/16, 1	.....	5/8	5/8	9 1/32

*Amer. Std. Machine Screw and Stove-Bolt Nuts.

Williams' Drop-Forged 12-Point Box Superrenches

Chrome-Molybdenum—Long 15° Angle—7 to 19 Inches



For use on connecting rods, main bearings, base, cylinder heads, spring clips, etc. Thin head walls for use in close quarters.

Drop-forged from chrome-molybdenum steel, heat treated, and chrome-plated.

No.	Each	Openings Inches	For U.S. Std. Nuts In.	For Hex Cap Screws Inches	For S.A.E. Std. Nuts In.	For Amer. Std. Reg. Nuts In.
7721	\$.80	5/16, 3/8	1/8	1/8, 3/16	.....	1/4
7723	.95	3/8, 7/16	.....	3/16, 1/4	.....	1/4
7023	.95	13/32, 1/2	3/16, 1/4	5/16	.....	.....
7725	.95	7/16, 1/2	1/4	1/4, 5/16	1/4, 5/16	1/4
7725B	1.00	1/2, 9/16	1/4	5/16, 3/8	5/16, 3/8	5/16
7025	1.00	1/2, 19/32	1/4, 5/16	5/16	.....	.....
7727	1.05	9/16, 5/8	.....	3/8, 7/16	3/8, 7/16	3/8, 7/16
7729	1.20	5/8, 3/4	3/8, 7/16	7/16, 1/2	7/16, 1/2	3/8, 7/16
7029	1.35	11/16, 25/32	3/8, 7/16	.....	.....	.....
7731A	1.40	3/4, 7/8	1/2	1/2, 5/8	1/2, 9/16	7/16, 9/16
7731B	1.55	13/16, 7/8	1/2	9/16, 5/8	9/16, 5/8	1/2, 9/16
7733	1.85	7/8, 1	1/2	5/8, 3/4	5/8, 3/4	9/16, 5/8
7033C	1.85	15/16, 1	.....	5/8, 3/4	5/8, 3/4	5/8
7034	2.95	7/8, 11/16	1/2, 5/8	5/8	3/4, 7/8	3/4, 7/8
7034A	2.95	15/16, 11/16	5/8	.....	5/8, 3/4	9/16
*7735	3.30	1, 1 1/8	.....	3/4, 7/8	1 1/16	5/8, 3/4
7037	3.30	1 1/16, 1 1/4	5/8, 3/4	.....	3/4, 7/8	3/4, 7/8
*7037A	3.80	1 1/8, 1 1/2	.....	7/8, 1	.....	3/4, 7/8
7039	3.80	1 1/4, 1 1/2	3/4, 7/8	.....	7/8, 1	.....

*Have thicker head walls for severe service.

Furnished in baked gray enamel at lower price on request.

Williams' 12-Point Box Superrenches

Chrome-Molybdenum
Short Pattern—15° Angle Offset Heads



Particularly adapted to work in close quarters. Thin head walls permit use where clearance is limited. Openings grip hex nuts on 6 sides. Each head has a 12-point opening.

Can be furnished finished—chrome-plated over nickel; unfinished—baked light gray enamel.

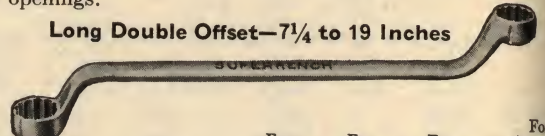
No.	Unfin- ished Each	Fin- ished Each	Nominal Openings Inches	For U. S. Std. Hex. Nuts Size Bolts Inches	For Std. Cap Screws Diam. Inches	For S. A. E. Standard Hex. Nuts Size Bolts Inches	For Amer. Std. Hex. Nuts Reg. & Jam Size Bolts Inches	Ext. Lth. In.
6723	\$.80	\$.95	3/8, 7/16	.....	3/16, 1/4	1/4	1/4	4 1/2
6725	.85	1.00	7/16, 1/2	1/4	1/4, 5/16	1/4, 5/16	1/4	5 1/2
6725B	.85	1.00	1/2, 9/16	1/4	5/16, 3/8	5/16, 3/8	5/16	5 1/2
6727	.95	1.10	9/16, 5/8	.....	3/8, 7/16	3/8, 7/16	5/16, 3/8	6

Williams' Drop-Forged 12-Point Box Superrenches

Chrome-Molybdenum

Thin head walls for use in close quarters. All have 12-point openings.

Long Double Offset—7 1/4 to 19 Inches



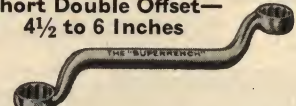
No.	Chrome Fin. Each	Unfin. Each	Nominal Openings Inches	For U.S. Std. Nuts Inches	For Hex. Cap Screws Inches	For S.A.E. Std. Nuts Inches	For Amer. Std. Reg. Nuts Inches
8021	\$.80	\$.70	5/16, 13/32	1/8, 3/16	1/8, ..	.....	1/4
8723	.95	.85	3/8, 7/16	.....	3/16, 1/4	.....	1/4
8023	.95	.85	13/32, 1/2	3/16, 1/4	1/4, 5/16	.....	5/16
8725	.95	.85	7/16, 1/2	1/4, 1/4	1/4, 5/16	1/4, 5/16	1/4
8725B	1.00	.90	1/2, 9/16	1/4, 5/16	5/16, 3/8	5/16, 3/8	5/16
8025	1.00	.90	1/2, 19/32	1/4, 5/16	5/16	.....	5/16
8727	1.05	.95	9/16, 5/8	.....	3/8, 7/16	3/8, 7/16	5/16, 3/8
8729	1.20	1.05	5/8, 3/4	.....	7/16, 1/2	7/16, 1/2	3/8, 7/16
8029	1.35	1.15	11/16, 25/32	3/8, 7/16	.....	.....	.....
8731A	1.40	1.20	3/4, 7/8	1/2, 5/8	1/2, 5/8	1/2, 9/16	7/16, 9/16
8731B	1.55	1.35	13/16, 7/8	1/2, 5/8	5/8, 3/4	5/8, 3/4	1/2, 9/16
8033	1.65	1.45	7/8, 1 1/32	1/2, 5/8	5/8, 3/4	5/8, 3/4	9/16, 5/8
8733	1.85	1.65	7/8, 1	1/2, ..	5/8, 3/4	5/8, 3/4	9/16, 5/8
8033C	1.85	1.65	15/16, 1	.....	3/4	5/8, 3/4	5/8
8034	2.95	2.60	7/8, 1 1/16	1/2, 5/8	5/8, ..	5/8, 3/4	9/16, 5/8
8034A	2.95	2.60	15/16, 1 1/16	.....	5/8	5/8, 3/4	9/16, 5/8
*8735	3.30	2.90	1, 1 1/8	.....	3/4, 7/8	1 1/16	5/8, 3/4
8037	3.30	2.90	1 1/16, 1 1/4	5/8, 3/4	.....	3/4, 7/8	.....
*8037A	3.80	3.35	1 1/8, 1 1/2	.....	7/8, 1	.....	3/4, 7/8
8039	3.80	3.35	1 1/4, 1 1/2	3/4, 7/8	.....	7/8, 1	.....

For Heavy Service—23 to 30 Inches—Round Handle

8041	....	\$4.95	1 1/2, 1 5/8	7/8, 1	.....	1, 1 1/8	.....
8045	....	8.45	1 13/16, 2	1 1/8, 1 1/4	.....	1 1/4, 1 3/8	.....
8048	....	9.80	2, 2 3/8	1 1/4, 1 1/2	.....	1 3/8	.....
8049	....	10.60	2 3/16, 2 3/8	1 3/8, 1 1/2	.....	1 1/2	.....
8053	....	16.25	2 9/16, 2 3/4	1 5/8, 1 3/4	.....	.....	.....

*Have thicker head walls for severe service.

Short Double Offset—4 1/2 to 6 Inches



9723	\$.95	\$.80	3/8, 7/16	.....	3/16, 1/4	.....	1/4
9725	1.00	.85	7/16, 1/2	1/4	1/4, 5/16	1/4, 5/16	1/4
9725B	1.00	.85	1/2, 9/16	1/4	5/16, 3/8	5/16, 3/8	5/16
9727	1.10	.95	9/16, 5/8	.....	3/8, 7/16	3/8, 7/16	5/16, 3/8



Single Offset—8 1/2 to 12 Inches

8128	\$1.35	\$1.20	7/16, 7/16	.....	1/4, 1/4	1/4, 1/4	1/4, 1/4
8132	1.45	1.30	1/2, 1/2	1/4	5/16, 1/2	5/16, 1/2	5/16, 1/2
8136	1.55	1.40	9/16, 9/16	.....	3/8, 3/8	3/8, 3/8	5/16, 3/8
8140	1.65	1.50	5/8, 5/8	.....	1/2, 1/2	1/2, 1/2	5/8, 5/8
8148	1.80	1.60	3/4, 3/4	.....	1/2, 1/2	1/2, 1/2	7/16, 3/4

Williams' Superior Drop-Forged Engineers' Wrenches

Carbon Steel—15° Angle, Double Head



Unfinished have openings milled, shanks smooth, are hardened and shot-blasted. Sizes stamped on heads.

Finished have openings milled, surface and edges smoothed, sizes stamped on heads, hardened and black enameled (baked on)—heads bright.

No.	Unfin- ished Each	Fin- ished Each	For U. S. Std. Nuts; Size Bolts Inches	For Hex. Head Cap Screws; Diam. Screws Inches	For S.A.E. Std. Nut and Cap Bolts Size Bolts Inches	For Amer. Std. Nuts; Reg. and Jam Size Bolts Inches	Nominal Openings Inches	Ex- treme Lgth. Approx. Inches
721	\$.28	\$.34	1/8	1/8	3/16		5/16 - 3/8	4 1/8
21	.28	.34	1/8	1/8	3/16		5/16 - 13/32	4 1/8
722	.34	.42	1/8	1/8	1/4	1/4	5/16 - 7/16	4 1/2
22	.34	.42	1/8	1/8	1/4	1/4	5/16 - 1/2	4 1/2
723	.34	.42	1/8	1/8	1/4	1/4	3/8 - 7/16	4 1/2
723A	.34	.42	1/4	1/4	5/16	5/16	3/8 - 1/2	4 7/8
23	.34	.42	3/16	3/16	1/4	1/4	13/32 - 1/2	4 7/8
724	.40	.50	3/16	3/16	3/8	3/8	3/8 - 9/16	5 1/4
24	.40	.50	3/16	3/16	3/8	3/8	13/32 - 19/32	5 1/4
725	.40	.50	1/4	1/4	1/2	1/2	7/16 - 1/2	5 1/4
725A	.40	.50	1/4	1/4	3/8	3/8	7/16 - 9/16	5 1/4
25A	.40	.50	1/4	1/4	7/16	7/16	7/16 - 5/8	5 3/4
725B	.40	.50	1/4	1/4	5/16	5/16	1/2 - 9/16	5 3/4
25	.40	.50	1/4	1/4	5/16	5/16	1/2 - 19/32	5 3/4
726	.50	.62	1/4	1/4	7/16	7/16	1/2 - 5/8	6 1/4
26	.50	.62	1/4	1/4	3/8	3/8	1/2 - 11/16	6 1/4
727	.50	.62	3/8	3/8	7/16	7/16	9/16 - 5/8	6 1/4
27C	.50	.62	3/8	3/8	3/8	3/8	9/16 - 11/16	6 3/4
728	.60	.74	5/16	5/16	3/8	3/8	19/32 - 11/16	6 3/4
28	.60	.74	5/16	5/16	1/2	1/2	9/16 - 3/4	7 1/4
729	.60	.74	5/16	5/16	1/2	1/2	19/32 - 25/32	7 1/4
28S	.60	.74	7/16	7/16	1/2	1/2	5/8 - 3/4	7 1/4
29	.60	.74	3/8	3/8	7/16	7/16	5/8 - 25/32	7 1/4
730	.74	.90	3/8	3/8	1/2	1/2	11/16 - 25/32	7 7/8
730A	.74	.90	1/2	1/2	5/8	5/8	5/8 - 13/16	8 1/2
30	.74	.90	3/8	3/8	1/2	1/2	5/8 - 7/8	8 1/2
731	.74	.90	1/2	1/2	5/8	5/8	11/16 - 7/8	8 1/2
731A	.74	.90	1/2	1/2	5/8	5/8	3/4 - 13/16	9 1/8
31	.74	.90	7/16	7/16	5/8	5/8	25/32 - 7/8	9 1/8
731B	.74	.90	1/2	1/2	5/8	5/8	13/16 - 7/8	9 1/8
32	.90	1.10	7/16	7/16	5/8	5/8	25/32 - 31/32	10
732	.90	1.10	9/16	9/16	3/4	3/4	13/16 - 1	10
33A	.90	1.10	1/2	1/2	5/8	5/8	7/8 - 15/16	10
33	.90	1.10	1/2	1/2	5/8	5/8	7/8 - 31/32	10
733	.90	1.10	1/2	1/2	5/8	5/8	7/8 - 1	10
33C	.90	1.10	1/2	1/2	5/8	5/8	13/16 - 1	10
34	1.12	1.36	1/2	1/2	5/8	5/8	7/8 - 1 1/16	11
734	1.12	1.36	1/2	1/2	5/8	5/8	7/8 - 1 1/16	11
34A	1.12	1.36	5/8	5/8	3/4	3/4	7/8 - 1 1/8	11
35	1.12	1.36	9/16	9/16	5/8	5/8	13/16 - 1 1/16	11
735	1.12	1.36	3/4	3/4	7/8	7/8	31/32 - 1 1/16	11
36	1.62	1.92	9/16	9/16	3/4	3/4	1 - 1 1/8	11
736	1.62	1.92	3/4	3/4	7/8	7/8	31/32 - 1 1/4	12 3/8
736A	1.62	1.92	3/4	3/4	1	1	1 - 1 1/4	12 3/8
37	1.62	1.92	3/4	3/4	1	1	1 - 1 1/16	12 3/8
737	1.62	1.92	3/4	3/4	1	1	1 1/8 - 1 1/4	12 3/8
37A	1.62	1.92	3/4	3/4	1	1	1 1/8 - 1 1/2	12 3/8
38	2.40	2.80	3/4	3/4	1	1	1 1/8 - 1 1/2	14
738	2.40	2.80	3/4	3/4	1	1	1 1/8 - 1 1/2	14
38A	2.40	2.80	3/4	3/4	1	1	1 1/8 - 1 1/2	14
739	2.40	2.80	3/4	3/4	1	1	1 1/8 - 1 1/2	14
39	2.40	2.80	3/4	3/4	1	1	1 1/8 - 1 1/2	14
739A	2.40	2.80	3/4	3/4	1	1	1 1/8 - 1 1/2	14
39A	2.40	2.80	3/4	3/4	1	1	1 1/8 - 1 1/2	14
739B	2.40	2.80	3/4	3/4	1	1	1 1/8 - 1 1/2	14
40	3.30	3.80	3/4	3/4	1	1	1 1/4 - 1 5/8	15 3/4
40A	3.30	3.80	3/4	3/4	1	1	1 1/4 - 1 5/8	15 3/4
41	3.30	3.80	3/4	3/4	1	1	1 1/4 - 1 5/8	15 3/4
42	4.60	5.30	3/4	3/4	1	1	1 1/4 - 1 5/8	17
42A	4.60	5.30	3/4	3/4	1	1	1 1/4 - 1 5/8	17
42B	4.60	5.30	3/4	3/4	1	1	1 1/4 - 1 5/8	17
43	4.60	5.30	3/4	3/4	1	1	1 1/4 - 1 5/8	17
44	6.25	7.20	3/4	3/4	1	1	1 1/4 - 1 5/8	19
44A	6.25	7.20	3/4	3/4	1	1	1 1/4 - 1 5/8	19
46	9.30	10.50	3/4	3/4	1	1	1 1/4 - 1 5/8	21
46A	9.30	10.50	3/4	3/4	1	1	1 1/4 - 1 5/8	21
47A	9.30	10.50	3/4	3/4	1	1	1 1/4 - 1 5/8	21
47B	9.30	10.50	3/4	3/4	1	1	1 1/4 - 1 5/8	21
48	12.50	14.00	3/4	3/4	1	1	2 - 2 3/8	23
49	12.50	14.00	3/4	3/4	1	1	2 1/4 - 2 5/8	23

Williams' Superior Drop-Forged Light Service Wrenches

Improved Carbon Steel
22 1/2° Angle, Double Head

Unfinished are milled, sizes stamped on heads, hardened and shot-blasted. Finished are milled, surface and edges smoothed, sizes stamped on heads, hardened and black enameled (baked on)—heads bright.

No.	Unfin- ished Each	Fin- ished Each	Nominal Openings In.	Ex- treme Length Approx. In.	For U.S. Std. Nuts Size Bolts In.	For Hex. Head Cap Screws Diam. Screws In.	For S.A.E. Std. Nut and Cap Screw Size Bolts In.	For Amer. Std. Nuts; Reg. and Jam In.
75C	\$.45	\$.54	1/4 - 5/16	6 1/4				
75B	.45	.54	3/8 - 7/16	6 1/4				
75A	.45	.54	3/8 - 1/2	6 1/4				
75	.45	.54	13/32 - 1/2	6 1/4				
77S	.58	.68	7/16 - 1/2	7 1/4				
77C	.58	.68	7/16 - 9/16	7 1/4				
77E	.58	.68	7/16 - 5/8	7 1/4				
77B	.58	.68	1/2 - 9/16	7 1/4				
77	.58	.68	1/2 - 5/8	7 1/4				
79B	.73	.86	9/16 - 19/32	8 1/4				
79S	.73	.86	9/16 - 5/8	8 1/4				
79A	.73	.86	9/16 - 11/16	8 1/4				
79E	.73	.86	9/16 - 3/4	8 1/4				
79D	.73	.86	19/32 - 11/16	8 1/4				
79	.73	.86	5/8 - 11/16	8 1/4				
79C	.73	.86	5/8 - 3/4	8 1/4				
81H	.93	1.10	5/8 - 13/16	9 1/4				
81	.93	1.10	11/16 - 27/32	9 1/4				
81B	.93	1.10	3/4 - 13/16	9 1/4				
81A	.93	1.10	3/4 - 7/8	9 1/4				
83J	1.16	1.40	13/16 - 1	10 3/8				
83	1.16	1.40	27/32 - 15/16	10 3/8				
83D	1.16	1.40	7/8 - 15/16	10 3/8				
83B	1.16	1.40	7/8 - 1	10 3/8				
83C	1.16	1.40	7/8 - 1 1/16	10 3/8				
83A	1.16	1.40	15/16 - 1	10 3/8				
85	1.65	2.00	1 - 1 1/8	12				
85J	1.65	2.00	1 - 5/8	12				
85C	1.65	2.00	1 1/16 - 1 1/4	12				
85B	1.65	2.00	1 1/8 - 1 1/4	12				
85K	1.65	2.00	1 1/8 - 1 5/8	12				

Williams' Superior Drop-Forged Socket Wrenches



**Straight Pattern—Carbon Steel
Single Head, for Hexagon
Nuts and Cap Screws
With or Without Pin Handle**

Unhardened are broached and shot-blasted. Finished are broached, surface smoothed, hardened and black enameled, baked on. Unless otherwise specified wrenches with pin handles will be supplied. Wrenches of shorter or longer lengths can be furnished to order in quantities.

No.	Unhardened		Finished		For U.S. Std. Nuts Size Bolt Inches
	Without Pin Handle Each	With Pin Handle Each	Without Pin Handle Each	With Pin Handle Each	
961A	.40	.60	.60	.80	1/8
962D	.44	.66	.66	.88	9/16
963A	.48	.74	.72	.98	3/16
963D	.48	.74	.72	.98	1/4
964A	.52	.78	.78	1.04	1/2
965D	.58	.86	.88	1.16	5/8
965A	.58	.86	.88	1.16	3/4
966D	.64	.94	.96	1.26	7/8
967A	.72	1.06	1.08	1.42	1 1/8
967D	.72	1.06	1.08	1.42	1 1/4
968A	.80	1.14	1.20	1.54	1 1/2
968D	.80	1.14	1.20	1.54	1 3/4
969A	.92	1.28	1.38	1.74	2
970S	1.04	1.44	1.56	1.96	2 1/8
970A	1.04	1.44	1.56	1.96	2 1/4
970D	1.04	1.44	1.56	1.96	2 1/2
971A	1.20	1.60	1.80	2.20	2 3/4
971D	1.20	1.60	1.80	2.20	3
973A	1.60	2.20	2.40	3.00	3 1/4
973B	1.60	2.20	2.40	3.00	3 1/2
975A	2.00	2.70	3.00	3.70	3 3/4
975D	2.00	2.70	3.00	3.70	4
976A	2.30	3.10	3.44	4.24	4 1/8
976B	2.30	3.10	3.44	4.24	4 1/4
977A	2.60	3.50	3.90	4.80	4 1/2
977B	2.60	3.50	3.90	4.80	4 3/4
978A	3.20	4.10	4.80	5.70	5 1/8
979A	4.20	5.20	6.30	7.30	5 1/2
979B	4.20	5.20	6.30	7.30	5 3/4
980A	5.60	6.90	8.40	9.70	6

No.	For Hex. Cap Screw Diam. Screw Inches	For S.A.E. Std. Nut & Cap Screw Size Bolt, In.	For Amer. Std. Nut Reg. & Across Flats Jam. In.	Nominal Opening Inches	Diameter of Head—Inches	Extreme Length Inches
961A	...	...	...	5/16	1/2	4 1/4
962D	3/16	...	...	3/8	5/8	4 1/2
963A	...	...	...	1/2	1 1/8	4 3/4
963D	1/4	1/4	1/4	1/2	3/4	4 3/4
964A	5/16	5/16	...	1/2	3/4	5 1/4
965D	3/8	3/8	5/16	9/16	7/8	5 3/4
965A	...	...	...	19/32	7/8	5 3/4
966D	7/16	7/16	3/8	5/8	1	6 1/8
967A	...	...	...	11/16	1 1/8	6 1/2
967D	1/2	1/2	7/16	3/4	1 1/8	6 1/2
968A	...	...	...	23/32	1 1/4	7
968D	9/16	9/16	1/2	13/16	1 1/4	7
969A	5/8	5/8	9/16	7/8	1 3/8	7 3/8
970S	...	5/8	...	15/16	1 1/2	7 7/8
970A	...	...	...	31/32	1 1/2	7 7/8
970D	3/4	...	5/8	1	1 1/2	7 7/8
971A	...	3/4	...	1 1/16	1 5/8	8 1/4
971D	7/8	...	3/4	1 1/4	1 5/8	8 1/4
973A	...	7/8	...	1 1/4	1 7/8	9 1/8
973B	1	...	7/8	1 5/16	1 7/8	9 1/8
975A	...	1	...	1 7/16	2 1/8	10
975D	1 1/8	...	1	1 1/2	2 1/8	10
976A	...	1 1/8	...	1 5/8	2 3/8	10 3/8
976B	1 1/4	...	1 1/8	1 11/16	2 3/8	10 3/8
977A	...	1 1/4	...	1 13/16	2 5/8	10 7/8
977B	...	...	1 1/4	1 7/8	2 5/8	10 7/8
978A	...	1 3/8	...	2	2 7/8	11 3/8
979A	...	1 1/2	...	2 3/16	3	11 7/8
979B	...	...	1 1/2	2 1/4	3	11 7/8
980A	...	...	...	2 3/8	3 3/16	12 1/2

Williams' Superior Drop-Forged Socket Wrenches



**Carbon Steel—Square Openings
Straight Pattern—With or Without Pin Handle**

Unhardened are broached and shot-blasted.

Finished are broached, surface smoothed, hardened and black enameled (baked on).

Unless otherwise specified, finished wrenches with pin handles will be supplied.

Special broaching to order, also wrenches of shorter or longer lengths than stated in table, in quantities.

No.	UNHARDENED		FINISHED		Nominal Opening Inches	For U.S. Std. Nut Size Bolt Inches
	Without Pin Handle Each	With Pin Handle Each	Without Pin Handle Each	With Pin Handle Each		
960H	.36	.52	.54	.70	1/8	...
961H	.40	.60	.60	.80	3/16	...
961J	.40	.60	.60	.80	1/4	...
962H	.44	.66	.66	.88	5/16	...
963H	.48	.74	.72	.98	3/8	...
965H	.58	.86	.88	1.16	7/16	...
966H	.64	.94	.96	1.26	1/2	1/4
967H	.72	1.06	1.08	1.42	9/16	...
967X	.72	1.06	1.08	1.42	19/32	5/16
968H	.80	1.14	1.20	1.54	5/8	...
968P	.80	1.14	1.20	1.54	1 1/16	3/8
969H	.92	1.28	1.38	1.74	3/4	...
970H	1.04	1.44	1.56	1.96	13/16	...
971H	1.20	1.60	1.80	2.20	7/8	1 1/2
971X	1.20	1.60	1.80	2.20	31/32	9/16
973H	1.60	2.20	2.40	3.00	1	...
974X	1.80	2.50	2.70	3.40	1 1/16	5/8
974H	1.80	2.50	2.70	3.40	1 1/8	...
976H	2.30	3.10	3.44	4.24	1 1/4	3/4
977N	2.60	3.50	3.90	4.80	1 3/8	...
977X	2.60	3.50	3.90	4.80	1 1/16	7/8
977P	2.60	3.50	3.90	4.80	1 1/2	...
978P	3.20	4.10	4.80	5.70	1 5/8	1
979X	4.20	5.20	6.30	7.30	1 13/16	1 1/8
980X	5.60	6.90	8.40	9.70	2	1 1/4

No.	For Cap Screw Diam. Screw Inches	For Set Screw Size Inches	For Amer. Std. Nut Reg. and Jam Size Bolt Inches	Approx. Extreme Length Inches	Diam. Head Inches
960H	...	1/8	...	3 3/4	5/16
961H	...	3/16	...	4 1/4	1/2
961J	...	1/4	...	4 1/4	1/2
962H	...	5/16	...	4 1/2	5/8
963H	1/4	3/8	...	4 7/8	1 1/16
965H	5/16	7/16	1/4	5 3/4	7/8
966H	3/8	1/2	...	6 1/8	1
967H	7/16	9/16	5/16	6 1/2	1 1/8
967X	...	...	...	6 1/2	1 1/8
968H	1/2	5/8	3/8	7	1 1/4
968P	9/16	...	...	7	1 1/4
969H	5/8	3/4	7/16	7 3/8	1 3/8
970H	...	...	1/2	7 7/8	1 1/2
971H	3/4	7/8	9/16	8 1/4	1 5/8
971X	...	...	...	8 1/4	1 5/8
973H	...	1	5/8	9 1/8	1 7/8
974X	...	...	...	9 1/2	2
974H	7/8	1 1/8	3/4	9 1/2	2
976H	1	1 1/4	...	10 3/8	2 3/8
977N	1 1/8	1 3/8	...	10 7/8	2 5/8
977X	...	...	...	10 7/8	2 5/8
977P	1 1/4	1 1/2	1	10 7/8	2 5/8
978P	1 3/8	...	...	11 3/8	2 7/8
979X	...	...	...	11 7/8	3
980X	...	...	...	12 1/2	3 3/16

Williams' Superior Drop-Forged Construction Wrenches

15° Angle, Carbon Steel



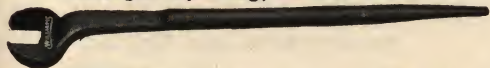
This wrench with deep opening provides substantial bearing on square nuts. The long handle is round for the greater part of its length, with tapered end for easy insertion into bolt holes when bringing them into line.

Opening is milled; shot-blasted; hardened all over; heads not bright.

No.	Each	For U.S. Std. Nuts Size Bolt Inches	For Amer. Std. Reg. Nut Size Bolt Inches	Nominal Opening Inches	Extreme Length Inches	Thick-ness Head Inches
201A	\$.75	...	1/4	7/16	8	3/8
201	.75	1/4	...	1/2	8	3/8
201B	.75	...	5/16	9/16	8	3/8
202	.75	5/16	...	19/32	8	3/8
203A	.95	...	3/8	5/8	12	7/16
203	.95	3/8	...	11/16	12	7/16
204A	.95	...	7/16	3/4	12	7/16
204	.95	7/16	...	25/32	12	7/16
205A	1.20	...	1/2	13/16	14 1/2	17/32
205	1.20	1/2	...	7/8	14 1/2	17/32
206	1.20	9/16	...	31/32	14 1/2	17/32
206B	1.20	...	5/8	1	14 1/2	17/32
207	1.55	5/8	...	1 1/16	17	5/8
207A	1.55	...	3/4	1 1/8	17	5/8
208	2.05	3/4	...	1 1/4	19	11/16
208A	2.05	...	7/8	1 5/16	19	11/16
209	2.70	7/8	...	1 7/16	21	3/4
209A	2.70	...	1	1 1/2	21	3/4
210	3.60	1	...	1 5/8	23	27/32
210A	3.60	...	1 1/8	11 1/16	23	27/32
211	5.30	1 1/8	...	1 13/16	25	19/16
211A	5.30	...	1 1/4	1 7/8	25	19/16
212	5.30	1 1/4	...	2	25	15/16

Williams' Superior Drop-Forged Structural Wrenches

Straight Opening, Carbon Steel



Jaws are narrow and long. Long handle is round with tapered end. Milled, hardened all over, shot-blasted; heads not bright.

No.	Each	For U.S. Std. Nuts Size Bolt Inches	Amer. Std. Reg. Nut Size Bolt Inches	Nominal Opening Inches	Extreme Length Inches	Thick-ness Head Inches	HANDLE OFFSET INCHES
							At Head At End
901A	\$.80	...	1/4	7/16	9 1/2	11/32	9/16 1 1/2
901	.80	1/4	...	*1 1/2	9 1/2	11/32	9/16 1 1/2
901B	.80	...	5/16	9/16	9 1/2	11/32	9/16 1 1/2
902	.80	5/16	...	*19/32	9 1/2	11/32	9/16 1 1/2
903A	1.05	...	3/8	5/8	12	7/16	3/4 1 11/16
903	1.05	3/8	...	*11/16	12	7/16	3/4 1 11/16
904A	1.05	...	7/16	3/4	12	7/16	3/4 1 11/16
904	1.05	7/16	...	*25/32	12	7/16	3/4 1 11/16
905A	1.40	...	1/2	13/16	14 1/2	17/32	7/8 1 7/8
905B	1.40	...	9/16	7/8	14 1/2	17/32	7/8 1 7/8
905	1.40	1/2	...	*7/8	14 1/2	17/32	7/8 1 7/8
906	1.40	3/16	...	*31/32	14 1/2	17/32	7/8 1 7/8
		5/8	...	1	14 1/2	17/32	7/8 1 7/8
907	1.85	...	3/4	*1 1/16	17	5/8	1 2 3/8
907A	1.85	...	...	1 1/8	17	5/8	1 2 3/8
908	2.35	3/4	...	*1 1/4	19	11/16	1 1 3/8
908A	2.35	...	7/8	1 5/16	19	11/16	1 1 3/8
909	3.00	7/8	...	*17/16	21	3/4	1 3/4 3 1/16
		1	...	*1 5/8	21	3/4	1 3/4 3 1/16
910	4.10	1 1/8	...	1 11/16	23	13/16	1 1/16 3 3/8
910A	4.10	1 1/8	...	*1 13/16	23	13/16	1 1/16 3 3/8
		1 1/4	...	1 7/8	23	13/16	1 1/16 3 3/8
911	6.15	1 1/8	...	*1 13/16	25	7/8	1 5/8 3 11/16
		1 1/4	...	1 7/8	25	7/8	1 5/8 3 11/16
912	6.15	1 1/4	...	*2	25	7/8	1 5/8 3 11/16

*Based on U. S. Std. Nut formula. Actual openings are 1/8 to 1/4 inch larger for proper clearance on rough nuts and bolts.

Williams' Supersocket Wrenches

Chrome-Plated over Nickel

Midget Pattern 1/4-Inch Square Drive



For use in cramped quarters and for delicate adjustments. Invaluable time savers on magnetos, generators, wiring-connections, radios, carburetors, etc.

Thin straight walls enable the sockets to operate readily on troublesome little jobs where no ordinary socket or wrench could even get in and grip the nut. Furnished with hex, 12-point and square openings.

Accurately made from chrome-molybdenum steel, and heat treated in electric furnaces for tough, dependable strength.

Packed 6 in a box.

For Hex Nuts and Cap Screws

Nom-inal Open-ing In.	Hexagon Sockets		12-Point Sockets		U.S. Std. Nut; Bolt		Hex. Cap Screw		S.A.E. Std. Nut & Screw		Amer. Std. Mach. Nut & Screw		Square	
	No.	Each	No.	Each	In.	In.	In.	In.	No.	No.	No.	No.	No.	Each
3/16	NM606	\$.45	...	...	...	...	...	...	...	2 & 3	NM406	\$.45	...	...
7/32	NM607	.45	...	...	...	...	...	...	...	...	NM407	.45	...	...
1/4	NM608	.45	...	...	...	...	...	...	...	4	NM408	.45	...	...
9/32	NM609	.45	...	...	...	...	...	...	...	...	...	...	...	...
5/16	...	...	NM1210	\$.45	1/8	1/8	...	...	...	5 & 6	*NM810	.45	...	...
11/32	...	...	NM1211	.45	...	...	...	...	...	...	8	...	...	...
3/8	...	...	NM1212	.45	...	3/16	...	...	...	10	*NM812	.45	...	...
7/16	...	...	NM1214	.45	...	1/4	1/4	12 & 1/4	...	...	...	...	...	...

*8-point opening.

No. NM-20A Sliding T Handles

Length, 4 1/2 inches.

No. NM-20A.....each \$1.02

No. NM-42 Flex Handles

Handle is 5 3/4 inches long, with flexible head, knurled grip, and crosshole for use with sliding bar.

Sliding bar, 1/4x4 1/2 inches.

No. NM-42.....each \$1.40

Sliding Bar.....each .25

No. NM-51 Reversible Ratchet

Has 24 teeth in Ratchet-gear instead of usual 16. Turning shift lever reverses action instantly. Length, 4 1/2 inches.

No. NM-51.....each \$4.00

No. NM-110 Extension-Drivers

Has lockable, revolving, knurled handle with 1/4-inch square drive opening in end. May be used either as an extension with handy revolving grip for spinning nuts, or as a driver with handle locked. A slight turn of the handle locks and unlocks same instantly.

Length, 5 3/8 inches.

No. NM-110.....each \$1.44

No. MM-130 Adapters

With 1/4-inch square male and 3/32-inch square female. Adapts sockets with 1/4-inch square drive openings to handles with 3/32-inch square drive plug.

No. MM-130.....each \$9.00

No. MM-131 Adapters

With 3/32-inch square male and 1/4-inch square female. Adapts sockets with 3/32-inch square drive openings to handles with 1/4-inch square drive plug.

No. MM-131.....each \$9.00

No. MM-150 Adapters

This plug adapter is 1 inch long; 1/4-inch and 3/32-inch square male.

No. MM-150.....each \$6.00

Williams' Supersocket Wrenches

Chrome-Plated Over Nickel

Bantam Pattern— $\frac{3}{8}$ -Inch Square Drive12-Point
Regular12-Point
Extra Deep12-Point
Universal8-Point
Extra Deep

Made from a superior grade of high tensile steel—chrome alloy and heat-treated in electric furnaces for maximum toughness and strength.

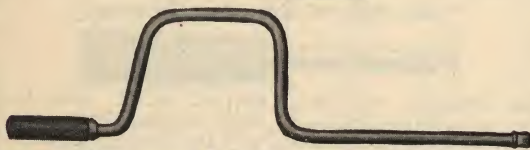
Packed 6 in a box.

Size Opening Inches	12-Point Straight Wall Sockets						18-Point Extra Deep Square Sockets	
	Regular No.	Each	Extra Deep No.	Each	Universal No.	Each		
$\frac{1}{4}$	B-608	\$.72						
$\frac{5}{16}$	B-1210	.72						
$\frac{11}{32}$	B-1211	.72						
$\frac{3}{8}$	B-1212	.72						
$\frac{7}{16}$	B-1214	.72	BD-1214	\$.77	BU-1214	\$2.30	BD-814	\$.85
$\frac{1}{2}$	B-1216	.72	BD-1216	.77	BU-1216	2.30	BD-816	.85
$\frac{9}{16}$	B-1218	.72	BD-1218	.77	BU-1218	2.55	BD-818	.92
$\frac{5}{8}$	B-1220	.72	BD-1220	.77	BU-1220	2.55	BD-820	.92
$\frac{11}{16}$	B-1222	.84	BD-1222	.90				
$\frac{3}{4}$	B-1224	.84	BD-1224	1.00				

Size Open. In.	U.S. Std. Hex Nut In.	Hex Cap Screw In.	S.A.E. Std. Hex Nut In.	AMERICAN STANDARD HEX NUTS, IN.		
				Reg. and Jam	Light and Castel- lated	Machine Screw Nuts
$\frac{1}{4}$						No. 4
$\frac{5}{16}$	$\frac{1}{8}$	$\frac{1}{8}$				5 & 6
$\frac{11}{32}$						8
$\frac{3}{8}$		$\frac{3}{16}$				10
$\frac{7}{16}$		$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	12 $\frac{1}{4}$
$\frac{1}{2}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$		$\frac{5}{16}$	
$\frac{9}{16}$		$\frac{3}{8}$	$\frac{3}{8}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{5}{16}$
$\frac{5}{8}$		$\frac{7}{16}$	$\frac{7}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{3}{8}$
$\frac{11}{16}$	$\frac{3}{8}$					
$\frac{3}{4}$		$\frac{1}{2}$	$\frac{1}{2}$	$\frac{7}{16}$	$\frac{1}{2}$	

*2 to 2 $\frac{1}{2}$ inches long.†1 $\frac{1}{2}$ inches long.

‡Single hex; taper nose.

No. F-15 Speeders

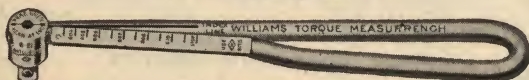
Length, 16 $\frac{1}{2}$ inches. Knurled revolving grip.
No. F-15.....each \$2.10

No. B-20A Sliding T Handles

Length, 6 $\frac{1}{2}$ inches.
No. B-20A.....each \$1.35

No. B-21 Torque Measurrenches

With Sliding Tee



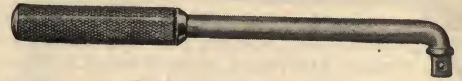
Length, 9 $\frac{1}{2}$ inches. For use with hollow-screw bits.
No. B-21.....each \$4.50

Williams' Supersocket Wrenches

Chrome-Plated Over Nickel

Bantam Pattern— $\frac{3}{8}$ -Inch Square Drive
Handles and Parts

No. B-30 Offset Handles



Length, 7 $\frac{3}{4}$ inches. Knurled grip.
No. B-30.....each \$1.50

No. B-40 Flex Handles

Length, 8 $\frac{1}{2}$ inches. Flexible head. Knurled grip with $\frac{3}{8}$ -inch square drive hole in end. May be used as an extension.
No. B-40.....each \$2.70

No. B-42 Flex Handles

Length, 8 $\frac{1}{2}$ inches. Flexible head, knurled grip. Cross-hole for sliding bar.
No. B-42.....each \$2.70

Sliding Bars

Size, $\frac{5}{16}$ -inch round x 6 inches. For use with No. B-42 flex handles.
Each.....\$.40

No. B-50 Drop Forged Ratchets

Length, 6 $\frac{1}{2}$ inches.
No. B-50, Complete with Plug Connector.....each \$3.60

No. B-50A Drop Forged Ratchets

Length, 6 $\frac{1}{2}$ inches. With $\frac{1}{4}$ -inch square drive opening in ratchet wheel and $\frac{1}{4}$ -inch square hole near end of handle. For refrigeration service. Furnished without plug connector.
No. B-50A.....each \$3.60

No. B-50B Drop Forged Ratchets

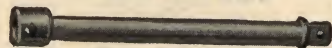
Length, 6 $\frac{1}{2}$ inches. With $\frac{5}{16}$ -inch square drive opening. No plug connector.
No. B-50B.....each \$3.30

No. B-51 Reversible Ratchets

Length, 6 $\frac{1}{2}$ inches. Has 24 teeth in ratchet-gear. Turning shift-lever reverses action instantly.
No. B-51.....each \$4.50

No. B-51A Reversible Ratchets

For refrigeration service. Same as No. B-51, but has both $\frac{3}{8}$ -inch square male and $\frac{1}{4}$ -inch square female ratchet drive. Also has $\frac{3}{16}$ -inch and $\frac{1}{4}$ -inch square drive holes in handle end.
No. B-51A.....each \$4.50

Extension Bars

No.	B-108	B-110	B-115
Each.....	\$1.08	1.08	1.20
Length.....inches	3	5 $\frac{1}{2}$	10 $\frac{1}{2}$

Adapters

No. BM-130, $\frac{3}{8}$ -Inch Square Female and $\frac{1}{2}$ -Inch Square Male.....	each	\$.90
No. BS-130, $\frac{3}{8}$ -Inch Square Female and $\frac{1}{2}$ -Inch Square Male.....	each	1.02
No. BS-131, $\frac{3}{8}$ -Inch Square Male and $\frac{1}{2}$ -Inch Square Female.....	each	1.02

No. B-140 Universal Joints

Approximate operating range, 140°.

No. B-140.....each \$2.46

No. B-150 Ratchet Plug Connector

No. B-150.....each \$.54

Williams' Supersocket Wrenches

Chrome-Plated over Nickel
Standard Pattern—1/2-Inch Square Drive

**Regular**

Regular sockets are furnished with 12-point and square openings. Have thin walls for work in cramped quarters. Accurately made from high tensile steel; chrome-alloy and heat-treated in electric furnaces for maximum strength. To use any standard socket (1/2-inch square female drive) with Bantam Handles (3/8-inch square male drive) use adapter No. BS-130.

**Extra Deep**

Extra deep sockets are designed for spark plug and other services, such as U-bolts and brake-rod-ends, where the nuts lie some distance from the outer end of the threaded stem. Long and slim, with thin walls. The 12-point openings permit operation in close quarters, where the handle can be swung only 30°. Made from high tensile steel, chrome-molybdenum and heat treated.

Regular Sockets**12-Point Sockets**

Nominal Opening In.	Straight Wall No.	Each	For U.S. Std. Nut; Size Bolt In.	For Hex. Hd. Cap Screw; Size Bolt In.	For S.A.E. Std. Nut; Size Bolt In.	AMER. STD. NUTS Reg. & Jam Bolt Size In.	LT. & Castel. Bolt Size In.	(Sq. Sockets) Taper Nose	
								No.	Each
5/16	.....	.....	.....	.....	.....	.....	.....	S-410	.72
3/8	.....	.....	.....	.....	.....	.....	.....	S-412	.72
7/16	ST-1214	.72	.....	1/4	1/4	1/4	1/4	S-414	.72
1/2	ST-1216	.72	1/4	3/16	3/16	3/16	3/16	S-416	.72
9/16	ST-1218	.72	.....	3/8	3/8	5/16	3/8	S-418	.72
5/8	SF-1218	1.00	.....	.....	.....	.....	.....	S-0418	.90
19/32	ST-1219	.72	5/16	.....	.....	.....	.....	.....	.....
5/8	ST-1220	.72	.....	7/16	7/16	3/8	7/16	S-420	.72
21/32	ST-1221	.72	.....	.....	.....	.....	.....	.....	.....
11/16	ST-1222	.84	3/8	.....	.....	.....	.....	S-422	.84
3/4	ST-1224	.90	.....	1/2	1/2	7/16	1/2	S-424	.90
25/32	ST-1225	.90	7/16	.....	.....	.....	.....	.....	.....
13/16	ST-1226	.90	.....	9/16	.....	1/2	.....	.....	.....
7/8	ST-1228	.90	1/2	5/8	9/16	9/16	9/16	S-428	.90
15/16	ST-1230	1.08	.....	.....	5/8	.....	.....	.....	.....
31/32	ST-1231	1.08	9/16	.....	.....	.....	.....	.....	.....
1	ST-1232	1.08	.....	3/4	11/16	5/8	5/8	S-432	1.20
1 1/16	†S-1234	1.20	5/8	.....	3/4	.....	.....	.....	.....
1 1/8	†S-1236	1.32	.....	7/8	.....	3/4	.....	.....	.....
1 1/16	†S-1238	1.38	.....	.....	.....	.....	.....	.....	.....
1 1/4	†S-1240	1.44	3/4	.....	7/8	.....	.....	.....	.....

*Special socket for Ford V-8 85 Hp. connecting rods.

†Special socket for Ford "A" connecting rods.

‡With taper nose.

§Special socket for all Ford V-8 85 Hp. main bearing bolt heads.

Extra Deep Sockets

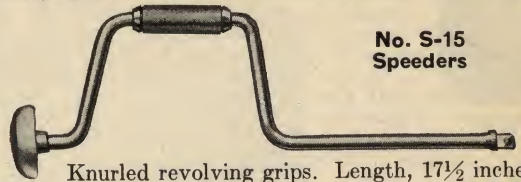
No.	Each	Size Opening Inches	For U.S. Std. Nut; Size Bolt Inches	For Hex. Hd. Cap Screw; Size Bolt Inches	For S.A.E. Std. Nut; Size Bolt Inches	AMER. STD. NUTS Reg. & Jam Bolt Size In.	LT. & Castel. Bolt Size In.	Extreme Length Inches
SD1216	\$1.14	1/2	1/4	5/16	5/16	.....	5/16	3 1/4
SD1218S	1.30	9/16	.....	3/8	3/8	5/16	3/8	3 1/4
SD1218	1.14	9/16	.....	3/8	3/8	5/16	3/8	3 1/4
SD1220	1.26	5/8	.....	7/16	7/16	3/8	7/16	3 1/4
SD1222	1.26	11/16	3/8	.....	.....	.....	.....	3 1/4
SD1224	1.26	3/4	.....	1/2	1/2	7/16	1/2	3 1/4
SD1226	1.26	13/16	.....	9/16	.....	1/2	.....	3 1/4
SD1228	1.26	7/8	1/2	5/8	9/16	9/16	9/16	3 1/4
SD1228T	1.26	7/8	.....	.....	.....	.....	.....	3 1/4
SD1230	1.38	15/16	.....	.....	5/8	.....	.....	3 1/4
SD1232	1.50	1	.....	3/4	11/16	5/8	5/8	3 1/4
SD1236	1.68	1 1/8	.....	7/8	.....	3/4	.....	3 1/4

||Popular spark plug sizes.

Handles and Parts for Williams' Supersocket Wrenches

Standard Pattern—1/2 Inch Square Drive
No. S-10 Speeders

No. S-10, Lgth. 12 In., Knurl. Revolv. Grips.....each \$2.70

**No. S-15 Speeders**

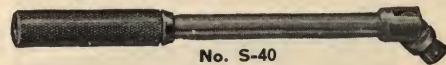
Knurled revolving grips. Length, 17 1/2 inches.
 No. S-15.....each \$2.70

Sliding T Handles

Offset handle No. S-20C, with 12-point socket, rotates hex nut where handle swings only 15 degrees.

No. S-20A, Straight Handle, Length 11 In.....each \$2.10

No. S-20C, Offset Handle, Length 11 1/2 In.....each 2.25

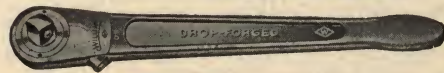
Flex Handles**No. S-40**

No. S-40 is 12 inches long; has flexible head and knurled grip with 1/2-inch square drive hole in end. May be used as extension.

No. S-41 is 17 1/4 inches long; has flexible head, knurled grip with 1/2-inch square drive hole in end for use as extension, and 1/2-inch round cross hole for bar.

No. S-42 is 14 1/2 inches long with flexible head, knurled grip, and cross hole for sliding bar. Sliding bar is 7/16 inch round and 9 inches long.

No. S-40.....\$4.00
 No. S-41.....4.50
 No. S-42.....3.90
 Each.....\$3.90
 Sliding Bar for No. S-42.....each .60

No. S-50 Ratchets

Complete with reversible plug connector.

No. S-50, Length, 10 Inches.....each \$4.50

No. S-51 Reversible Ratchets

Has 24 teeth in ratchet gear instead of

usual 16. Turning shift-lever reverses action instantly.

No. S-51, Length, 10 1/2 Inches.....each \$6.75

No. S-110 Extension Bars

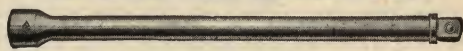
Knurled revolving grip. Length, 5 1/2 inches.
 No. S-110.....each \$1.80

No. S-110P Plain Extension Bars

No. S-110P, Length, 5 1/2 Inches.....each \$1.20

No. S-115 Extension Bars

Knurled revolving grip. Length, 10 1/2 inches.
 No. S-115.....each \$2.10

No. S-115P Plain Extension Bars

No. S-115P, Length, 10 1/2 Inches.....each \$1.65

No. SH-130 Adapters

Square female, 1/2 inch; square male, 3/4 inch. Adapts standard handles (1/2-inch square male drive) to heavy duty sockets (3/4-in. square female drive).

No. SH-130.....each \$1.20

No. S-140 Universal Joints

No. S-140, with 140° Operating Range. each \$2.70

Williams' Supersocket Wrenches Heavy Duty Pattern— $\frac{3}{4}$ -Inch Square Drive



Regular

Made in two patterns. Regular and Extra Deep. The 12-point openings of these sockets will rotate nut completely where handle can be swung only 30° —less than $1/10$ th of a full turn.

To use any heavy duty socket with parts having $\frac{1}{2}$ -inch square male drive, use adapter SH-130.



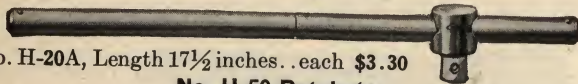
Extra Deep

12-Point Sockets

No.	Each	Nominal Opening Inches	For U.S. Std. Nut Size Bolt Inches	For Hex Head Cap Screw Size Inches	For S.A.E. Std. Nut and Cap Screw Inches	For Amer. Std. Reg. & Jam Nuts Inches
H-1228	\$1.08	$\frac{7}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{9}{16}$	$\frac{9}{16}$
H-1230	1.08	$\frac{15}{16}$	..	..	$\frac{5}{8}$	..
HD-1230	1.62	$\frac{15}{16}$	..	..	$\frac{5}{8}$	..
H-1231	1.08	$\frac{31}{32}$	$\frac{9}{16}$	..	$\frac{5}{8}$	..
H-1232	1.08	1	..	$\frac{3}{4}$	$\frac{11}{16}$	$\frac{5}{8}$
H-1234	1.32	$\frac{11}{16}$	$\frac{5}{8}$	..	$\frac{3}{4}$	..
HD-1234	1.86	$\frac{11}{16}$	$\frac{5}{8}$	..	$\frac{3}{4}$	..
H-1236	1.38	$\frac{11}{8}$	..	$\frac{7}{8}$	..	$\frac{3}{4}$
H-1238	1.38	$\frac{13}{16}$	..	..	..	..
H-1240	1.56	$\frac{13}{16}$	$\frac{3}{4}$	..	$\frac{7}{8}$	..
HD-1240	2.28	$\frac{13}{16}$	$\frac{3}{4}$	..	$\frac{7}{8}$	..
H-1242	1.56	$\frac{15}{16}$	..	1	$\frac{7}{8}$	$\frac{7}{8}$
H-1244	1.56	$\frac{13}{8}$	..	..	..	..
H-1246	1.86	$\frac{17}{16}$	$\frac{7}{8}$	..	1	..
HD-1246	2.52	$\frac{17}{16}$	$\frac{7}{8}$	..	1	..
H-1248	1.86	$\frac{17}{2}$	..	$\frac{11}{8}$	..	1
H-1252	2.16	$\frac{19}{8}$	1	..	$\frac{11}{8}$	..
H-1254	2.70	$\frac{11}{16}$	..	$\frac{11}{4}$	..	$\frac{11}{8}$
H-1256	2.70	$\frac{13}{4}$	..	..	..	..
H-1258	2.95	$\frac{13}{16}$	$\frac{11}{8}$	..	$\frac{11}{4}$	..
H-1260	2.95	$\frac{17}{8}$	..	..	..	$\frac{11}{4}$
H-1264	3.50	2	$\frac{11}{4}$	..	$\frac{13}{8}$	..
H-1266	4.10	$\frac{21}{16}$	..	..	..	$\frac{13}{8}$
H-1268	4.40	$\frac{21}{8}$	..	..	..	..
H-1270	4.70	$\frac{23}{16}$	$\frac{13}{8}$	..	$\frac{11}{2}$	..
H-1272	5.30	$\frac{24}{4}$	..	..	..	$\frac{11}{2}$

*Extra deep sockets, $\frac{3}{4}$ to $\frac{31}{2}$ inches long, with deep openings.

No. H-20A Sliding T Handles

No. H-20A, Length $17\frac{1}{2}$ inches. each \$3.30

No. H-50 Ratchets

No. H-50, Length $18\frac{1}{2}$ in. with Plug H-150. each \$10.50

Extension Bars

No. H-110, 8 Inches Long. each \$2.70
No. H-115, $15\frac{1}{2}$ Inches Long. each 3.30

No. H-150 Ratchet Plug Connectors

No. H-150. each \$1.20



HH-150

H-150

No. HH-150 Plug Adapters

With $\frac{5}{8}$ -inch square male and $\frac{3}{4}$ -inch square female, adapts sockets with $\frac{5}{8}$ -inch square female drive to ratchets with $\frac{3}{4}$ -inch square normal drive; also, ratchets with $\frac{5}{8}$ -inch square drive to sockets with $\frac{3}{4}$ -inch square female drive.

No. HH-150. each \$1.50



No. HNX-130 Adapters

With $\frac{3}{4}$ -inch square female and 1-inch square male; adapts heavy duty handles ($\frac{3}{4}$ -inch square male drive) to extra heavy duty sockets (1-inch square female drive).

No. HNX-130. each \$1.50



H-140

No. H-140 Universal Joints

No. H-140, with 140° Operating Range. each \$7.50

Williams' Supersocket Wrenches Chrome-Plated over Nickel Extra Heavy Duty Pattern—1-Inch Square Drive



Provides sturdy, rugged strength for the hardest kind of service. Has one-inch square drive opening in base, and is cross-drilled to receive the sliding handle. Will rotate nuts completely where the handle can be swung only 30° .

Lock-socket device provides a positive lock between the sockets and attachments. Eliminates all danger of sockets becoming detached in service.

Made of high tensile steel and heat-treated in electric furnaces for maximum strength.

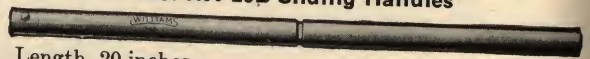
To use extra heavy duty sockets with heavy duty handles ($\frac{3}{4}$ -inch square male drive), use adapter HNX-130.

12-Point Sockets

No.	Each	Nominal Opening Inches	For U.S. Std. Nut; Size Bolt Inches	For Hex. Head Cap Screw Size Inches	For S.A.E. Std. Nut and Cap Screw Inches	For Amer. Std. Regular and Jam Nuts
NX-1234	\$1.80	$\frac{11}{16}$	$\frac{5}{8}$	..	$\frac{3}{4}$	..
NX-1236	1.80	$\frac{11}{8}$	..	$\frac{7}{8}$	..	$\frac{3}{4}$
NX-1240	1.98	$\frac{13}{16}$	$\frac{3}{4}$	..	$\frac{7}{8}$	..
NX-1244	2.10	$\frac{13}{8}$	..	..	..	..
NX-1246	2.22	$\frac{17}{16}$	$\frac{7}{8}$	..	..	..
NX-1248	2.70	$\frac{17}{2}$	..	$\frac{11}{8}$	..	1
NX-1252	3.00	$\frac{19}{8}$	1	..	$\frac{11}{8}$	..
NX-1258	4.20	$\frac{11}{16}$	$\frac{11}{8}$	..	$\frac{11}{4}$	..
NX-1264	4.80	2	$\frac{11}{4}$	..	$\frac{13}{8}$	..
NX-1270	6.30	$\frac{23}{16}$	$\frac{13}{8}$	..	$\frac{11}{2}$	..
NX-1276	7.50	$\frac{23}{8}$	$\frac{11}{2}$	..	..	..
NX-1280	10.50	$\frac{21}{2}$	..	..	..	..
*NX-682	12.00	$\frac{29}{16}$	$\frac{15}{8}$	..	..	..
*NX-688	16.50	$\frac{23}{4}$	$\frac{13}{4}$	..	..	..

*Made with short neck and no cross-hole, like heavy duty pattern. 6-point opening.

No. NX-20B Sliding Handles

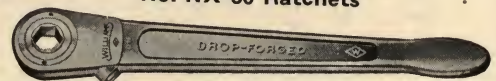
Length, 20 inches.
No. NX-20B Sliding Handle. each \$2.10

No. NX-20C Adapters

For sliding handle No. NX-20B.

No. NX-20C, Adapter. each \$3.00

No. NX-50 Ratchets

Length, $20\frac{1}{2}$ inches.
No. NX-50 Ratchet, complete with plug XX-150. each \$16.20

Extension Bars

No. NX-110, 9 Inches Long. each \$5.25
No. NX-115, 18 Inches Long. each 6.40

No. X-150 Ratchet Plug-Connectors

No. X-150. each \$1.68

No. XX-130 Adapters

With 1-inch square female and 1-inch hexagon male.

No. XX-130. each \$3.30

No. XX-131 Adapters

With 1-inch hexagon female and 1-inch square male.

No. XX-131. each \$3.30

No. XX-150 Adapters

With 1-inch square male and 1-inch hexagon male.

No. XX-150. each \$2.70



No. XX-130



No. XX-131



No. XX-150

Williams' Drag-Link Socket Bits

1/2-Inch Square Drive



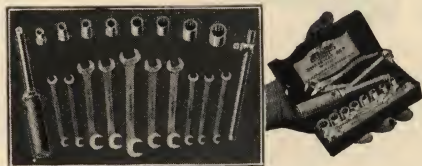
For slotted stud on drag-link of steering-gear; also tie-rod connecting steering-knuckles.

No.....	SB-30	SB-40
Size Blade.....inches	7/64x15/16	3/32x1 1/4
Each.....	\$1.02	1.38



No. 1291P Williams' Midget Combination Electrical Wrench Sets

Chrome-Molybdenum 1/4-Inch Square Drive Sockets

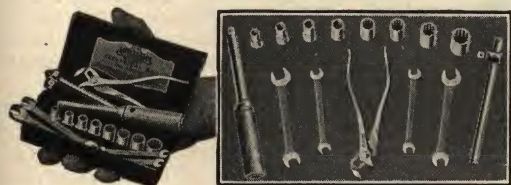


Midget superrenches have two openings of the same size in each wrench, but at different angles. Supersockets have straight walls for work in close corners.

Contents of set: 8 Midget supersockets—four hex openings, 3/16, 7/32, 1/4, and 5/32 inch; four 12-point openings, 5/16, 11/32, 3/8, and 1/2 inch; ten Midget superrenches (3 to 4 1/2 inches long)—openings, 3/16, 13/64, 7/32, 15/64, 1/4, 5/32, 3/16, 11/32, 3/8, and 1/2 inch; sliding T handle, 4 1/2 inches long; extension-driver with revolving, lockable grip, 5 3/8 inches long; and strong steel case, 5 1/2 x 2 3/4 x 1 inches. Midget superplier No. 1519, 4 1/2 inches long: No. 1291P Set Complete.....each \$15.85
No. 1291 Set Complete without Superplier.....each 14.00

No. 1284P Williams' Midget Combination Electrical Sets

With 5/32-Inch Square Drive Sockets



A combination of Williams' Midget "Superrenches," "Supersockets," and "Superpliers" for all delicate adjustments, magnetos, timers, generators, wiring-connections, carburetors, radios, etc. This set is unequalled for service in cramped quarters.

No. 1284P Set includes the following:

Four drop-forged Midget "Superrenches," chrome-molybdenum steel, with openings 13/64, 7/32, 15/64, 1/4, 5/32, 3/16, 11/32 and 3/8 inch.

Eight straight wall Midget "Supersockets," with 3/16, 7/32, 1/4, and 5/32-inch hex openings, and 5/16, 11/32, 3/8 and 1/2-inch twelve-point openings. Sliding T handle, length 4 1/2 inches; extension-driver, 5 3/8 inches; lockable-revolving handle with 5/32-inch square drive opening in end. May be used either as an extension or as a driver.

Onepair of No. 1519 Midget "Superpliers," length 4 1/2 inches.

Packed 15 pieces, complete in strong steel case, 5 1/2 x 2 3/4 x 1 inch.

No. 1284P, Complete.....	each	\$11.64
No. 1284, without "Superpliers".....	each	9.72

Williams' Supersocket Wrench Sets

1/4-In. Square Drive

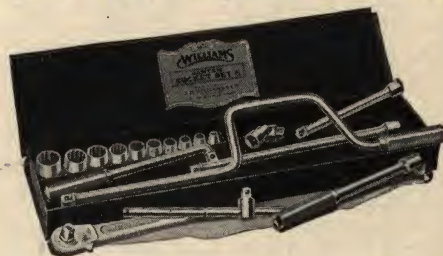


Contains 8 Midget Supersockets—4 with hexagon openings 3/16, 7/32, 1/4, and 5/32 inch and 4 with 12-point openings 5/16, 11/32, 3/8, and 1/2 inch; sliding T-handle 4 1/2 in. long; extension-driver 5 3/8 in. long, with lockable revolving grip, and Midget Superpliers 4 1/2 in. long. Chrome-plated over nickel. Packed in 5 1/2 x 2 3/4 x 1-in. steel case.

No. 1269P, with Superplier 1519.....	per set	\$8.80
No. 1269, without Superplier 1519.....	per set	6.96

No. 6 Williams' Automotive and Aviation Supersocket Wrench Sets

Bantam Pattern—3/8-Inch Square Drive



Thin-wall Supersockets and long, slim drivers work easily in close quarters. Chrome-plated over nickel. Set contains 19 pieces; 10 sockets, and 9 attachments. Packed in steel case, 17x4x1 1/2 inches. Weight complete, 6 1/2 pounds. No. 6, Wrench Set Complete, 19 Pieces.....per set \$27.65

Contents—12-Point Sockets

12-Point Socket No.	Size Opening Inches	Each	12-Point Socket No.	Size Opening Inches	Each
*B608	1/4	\$.72	B1216	1/2	\$.72
B1210	5/16	.72	B1218	9/16	.72
B1211	11/32	.72	B1220	5/8	.72
B1212	3/8	.72	B1222	11/16	.84
B1214	7/16	.72	B1224	3/4	.84

*Single hex opening.

Handles and Parts

No.	Description	Each
F15	Speeder; 16 1/2 In. Long; Knurled Revolving Grip.....	\$2.10
B20A	Sliding T Handle; 6 1/2 Inches Long.....	1.35
B30	Offset Handle; 7 3/4 Inches Long; Knurled Grip.....	1.50
B40	8 1/2-Inch Flex Handle; Flexible Head.....	2.70
B51	Reversible Superratchet with 6 1/2 Inches Long.....	4.50
B108	Extension Bar; 3 Inches Long.....	1.08
B110	Extension Bar; 5 1/2 Inches Long.....	1.08
B115	Extension Bar; 10 1/2 Inches Long.....	1.20
B140	Universal Joint 180° operating range.....	2.46

No. 21-R Williams' Supersocket Wrench Sets

Standard Pattern—1/2-Inch Square Drive



Consists of 10 sockets and No. S-51 Superratchet, length, 10 1/2 inches; in strong steel case, 11 1/2 x 2 5/8 x 1 3/4 inches. Chrome-plated over nickel.

Ten sockets have 12-point openings as follows: 7/16, 1/2, 9/16, 11/32, 5/8, 11/16, 3/4, 25/32, 7/8 and 1 inch. No.

S-50 ratchet may be substituted for No. S-51 at a reduction of \$2.25 in price of set.

No. 21-R.....	per set	\$16.45
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No. 20 Williams' Supersocket Wrench Sets

Standard Pattern— $\frac{1}{2}$ -Inch Square Drive



For garage and general service. Chrome plated over nickel. In steel case, $20\frac{1}{4} \times 6\frac{1}{2} \times 3\frac{3}{4}$ inches. Total weight, 23 pounds. No. 20 Set, Complete.....each \$42.20

Contents—12 Point Thin Wall Regular Sockets

No.	Nom. Open. Inches	Each	No.	Nom. Open. Inches	Each
ST-1214	$\frac{7}{16}$	\$.72	ST-1225	$\frac{25}{32}$	\$.90
ST-1216	$\frac{1}{2}$	.72	ST-1226	$\frac{13}{16}$	.90
ST-1218	$\frac{9}{16}$	.72	ST-1228	$\frac{7}{8}$	.90
ST-1219	$\frac{19}{32}$	.72	ST-1230	$\frac{15}{16}$	1.08
ST-1220	$\frac{5}{8}$	.72	ST-1231	$\frac{31}{32}$	1.08
ST-1222	$\frac{11}{16}$	.84	ST-1232	1	1.08
ST-1224	$\frac{3}{4}$	.90			

Handles and Parts

No.	Description	Each
S-10	Speeder, 12 Inches Long, Revolving Grips...	\$2.70
S-15	Speeder, 17 $\frac{1}{2}$ Inches Long, Revolving Grips.	2.70
S-20C	Offset Sliding T Handle, 11 $\frac{1}{2}$ Inches Long...	2.25
S-41	Flex Handle, 17 $\frac{1}{4}$ Inches Long.....	4.50
*S-51	Reversible Superratchet, 10 $\frac{1}{2}$ Inches Long..	6.75
S-110	Extension, 5 $\frac{1}{2}$ Inches Long, Revolving Grip.	1.80
S-115	Extension, 10 $\frac{1}{2}$ Inches Long, Revolving Grip	2.10
S-140	Universal Joint with 140° Operating Range..	2.70

*For No. S-50 Ratchet with reversible locked-in plug connector instead, deduct \$2.25 from price of set.

No. 30 Williams' Supersocket Sets

Chrome-Plated Over Nickel

Standard Pattern— $\frac{1}{2}$ -Inch Square Drive



An efficient, comprehensive assortment of 21 sockets and 8 attachments for general, all around work.

Set consists of 13 sockets with 12-point openings, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{9}{16}$, $\frac{19}{32}$, $\frac{5}{8}$, $\frac{11}{16}$, $\frac{3}{4}$, $\frac{25}{32}$, $\frac{13}{16}$, $\frac{7}{8}$, $\frac{15}{16}$, $\frac{31}{32}$, and 1 inch, and 8 sockets with square openings, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{9}{16}$, $\frac{5}{8}$, $\frac{11}{16}$, $\frac{3}{4}$, and $\frac{7}{8}$ inches. Eight accessories Nos. S-10, S-15, S-20C, S-41, *S-51, S-110, S-115, and S-140.

Each set is packed in a steel case, $20\frac{1}{4} \times 6\frac{1}{2} \times 3\frac{3}{4}$ inches.

Weight, 25 $\frac{1}{2}$ pounds.

No. 30 Set, Complete.....each \$48.85

*Ratchet S-50 may be substituted for reversible Superratchet S-51 at a reduction of \$2.25 in price of set.

No. 55 Williams' Master Mechanics' Supersocket Wrench Sets

Standard Pattern— $\frac{1}{2}$ -Inch Square Drive
Heavy Duty Pattern— $\frac{3}{4}$ -Inch Square Drive



For bus and truck work, and also for the millwright. Chrome-Plated over Nickel.

Set consists of 21 sockets with 12-point openings: Standard straight-wall, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{9}{16}$, $\frac{19}{32}$, $\frac{5}{8}$, $\frac{11}{16}$, $\frac{3}{4}$, $\frac{25}{32}$, $\frac{13}{16}$, $\frac{7}{8}$, $\frac{15}{16}$, $\frac{31}{32}$ and 1 inch; heavy duty pattern, $\frac{1}{16}$, $\frac{1}{8}$, $\frac{1}{4}$, $\frac{15}{16}$, $\frac{13}{8}$, $\frac{1}{16}$, $\frac{1}{2}$ and $\frac{15}{8}$ inches. Thirteen accessories: Standard pattern, Nos. S-10, S-15, S-20C, S-41, S-51, S-110, S-115, and S-140; heavy duty pattern, Nos. H-20A, H-50, H-110, H-115, and H-140.

Each set is packed in a strong steel case, $20\frac{1}{2} \times 6\frac{3}{4} \times 6\frac{3}{4}$ inches.

Unless other specified, No. 55 set will be furnished.

Weight, 43 $\frac{1}{2}$ pounds.

No. 55 Set, Complete.....each \$87.85
No. 55-A Set, Same as No. 55, but without Flex

Handle No. S-41.....each 83.35

No. S-50 ratchet may be substituted for No. S-51 reversible Superratchet at a reduction of \$2.25 in price of set.

Williams' Supersocket Wrench Adapters

Chrome Plated over Nickel
For Handles and Sockets

Williams' Supersocket Adapters offer great advantages and convenience to the mechanic, making possible the use of sockets having a given size drive-opening, with handles and parts of different size driving member.

For example: Adapter BS-130 permits the use of Bantam handles, $\frac{3}{8}$ -inch square drive, with standard sockets, $\frac{1}{2}$ -inch square drive.

Adapters listed in table below make possible the application of the above principle to all patterns of sockets with $\frac{3}{32}$, $\frac{7}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, and 1-inch drive openings.

With Female and Male Ends

No.	Each	OPENINGS, INCHES	
		Female End	Male End
MM-130	\$.90	$\frac{9}{32}$ -In. Square	$\frac{1}{4}$ -In. Square
MM-131	.90	$\frac{1}{4}$ -In. Square	$\frac{9}{32}$ -In. Square
BM-130	.90	$\frac{3}{8}$ -In. Square	$\frac{9}{32}$ -In. Square
BS-130	1.02	$\frac{3}{8}$ -In. Square	$\frac{1}{2}$ -In. Square
HX-130	1.50	$\frac{3}{4}$ -In. Square	1-In. Hex.
SH-130	1.20	$\frac{1}{2}$ -In. Square	$\frac{3}{4}$ -In. Square
XX-130	3.30	1-In. Square	1-In. Hex.
XX-131	3.30	1-In. Hex.	1-In. Square
HNX-130	1.50	$\frac{3}{4}$ -In. Square	1-In. Square
BS-131	1.02	$\frac{1}{2}$ -In. Square	$\frac{3}{8}$ -In. Square

With Male Ends Only

No.	Each	OPENINGS, INCHES	
		Male Ends	
HH-150	\$1.50	$\frac{3}{4}$ -In. Square	$\frac{5}{8}$ -In. Square
MM-150	.60	$\frac{1}{4}$ -In. Square	$\frac{9}{32}$ -In. Square
XX-150	2.70	1-In. Hex.	1-In. Square



Nos. MM-130 MM-131



Nos. BM-130, BS-130, BS-131, SH-130, HNX-130



No. HX-130



No. XX-130



No. XX-131



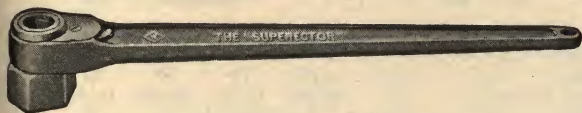
Nos. MM-150, HH-150



No. XX-150

Williams' "Superector" Reversible Ratchet Heavy Duty Wrenches

With Quadruple Pawls and Drop-Forged Handle



For bridge, structural, and other work requiring fast, dependable tools of rugged strength.



Hex Socket



Square Socket

Wrench provides increased bearing and strength by 2 pawls engaging 2 teeth for both on and off rotation of nuts. All 4 pawls are of hardened tool steel, designed to provide the sturdiest construction possible. Wrench has 20 teeth in all socket gears; consequently, all wrenches will rotate nuts with only an 18° swing of the wrench. Shifter lever, when in neutral, completely disengages all pawls for easy insertion and removal of socket. A flip of the lever reverses the action of the wrench. Socket retaining collar has projection on inner surface which registers easily with corresponding slot in neck of socket. Cover plate, securely seated in wrench head, is fastened by 1 screw.

Wrenches and sockets finished in light metallic gray enamel.

Wrenches

No.	E1-24	E1-36	E2-36	E2-48	E3-48
Wrench Only.....each	\$12.60	19.80	25.20	32.40	50.40
Length.....inches	24	36	36	48	53

Sockets

For Nos. E1-24 and E1-36 Wrenches Only

Nominal Opening, Size Across Flats Inches	No. Hex. Socket	No. Square Socket	Hex. or Square Socket Only Each	For U.S. Std. Nut and Amer. Std. Heavy Nut Hex. or Square Inches	For S.A.E. Std. Nut Hex. or Square Inches	Regular Nuts Hex. or Square Inches
1	.....	E1-416	\$4.85	.....	.....	5/8
1 1/16	E1-617	E1-417	4.85	5/8	3/4	.....
1 1/8	E1-618	E1-418	4.90	.....	.....	3/4
1 1/4	E1-620	E1-420	5.00	3/4	7/8	.....
1 5/16	E1-621	E1-421	5.10	.....	.....	7/8
1 7/16	E1-623	E1-423	5.20	7/8	1	.....
1 1/2	E1-624	E1-424	5.30	.....	.....	1
1 5/8	E1-626	E1-426	5.40	1	1 1/8	.....
1 11/16	E1-627	.....	5.50	.....	.....	1 1/8
1 3/4	E1-628	.....	5.60	.....	.....	.....
1 13/16	E1-629	E1-429	5.65	1 1/8	1 1/4	.....
1 7/8	E1-630	E1-430	5.75	.....	.....	1 1/4
2	E1-632	E1-432	5.90	1 1/4	1 3/8	.....
2 1/16	E1-633	.....	6.00	.....	.....	1 3/8
2 3/16	E1-635	E1-435	6.20	1 3/8	1 1/2	.....
2 1/4	E1-636	E1-436	6.40	.....	.....	1 1/2

For Nos. E2-36 and E2-48 Wrenches Only

No.	E2-36	E2-48	Wrenches Only	No.	E2-36	E2-48	Wrenches Only
2	E2-632	E2-432	\$9.70	1 1/4	1 3/8	.....	.....
2 3/16	E2-635	E2-435	10.00	1 3/8	1 1/2	.....	.....
2 3/8	E2-638	E2-438	10.40	1 1/2	.....	.....	.....
2 1/2	E2-641	E2-441	10.80	1 5/8	.....	.....	.....
2 3/4	E2-644	E2-444	11.30	1 3/4	.....	.....	.....
2 15/16	E2-647	E2-447	11.85	1 7/8	.....	.....	.....
3	E2-650	E2-450	12.40	2	.....	.....	.....

For No. E3-48 Wrench Only

No.	E3-48	Wrench Only	No.	E3-48	Wrench Only
3 1/8	E3-650	E3-450	\$20.10	2	.....
3 1/2	E3-656	E3-456	20.80	2 1/4	.....
3 3/8	E3-662	E3-462	21.60	2 1/2	.....
3 1/4	E3-668	E3-468	22.55	2 3/4	.....
4	E3-674	E3-474	23.65	3	.....

Favorite Reversible Ratchet Wrenches



This wrench works on a quick, straight ahead ratchet movement, and the socket form of head is not removed from the nut until operation is completed.

Reverse motion instantaneous by simple turning pawl. Can be used in narrower places than an ordinary wrench.

Wrench heads are interchangeable in each handle. The Nos. 1, 2, 3, 4, and 5 heads fit handle A. The Nos. 20, 21, 22 and 23 heads fit handle B. The Nos. 30, 31, 32, 33, and 34 heads fit handle C.

Unless otherwise specified, a No. 5 head is sent for a 15-inch handle; No. 21 head for 24-inch handle; and No. 32 head for 27-inch handle.

Cadmium plated finish.

Lgth. of Handle	To Fit U.S. Std. NUTS (BOLT SIZES)	EXACT SIZES OF OPENINGS, INCHES		Head Only Each	Handle Only Each	Handle and One Head Per Set
		Square	Hexagon			
A 15 1	1 1/4, 3/8	.....	17/32, 11/16	\$3.75	\$3.75	\$7.50
A 15 2	1 1/2, 5/8	.....	15/16, 11/8	3.75	3.75	7.50
A 15 3	1 3/4, 3/4	.....	17/32, 11/8	3.75	3.75	7.50
A 15 4	1 1/2, 5/8	.....	29/32, 11/8	3.75	3.75	7.50
A 15 5	5/8, 3/4	.....	11/8, 15/16	3.75	3.75	7.50
B 24 20	3/4, 7/8	.....	15/16, 1 1/2	4.50	5.25	9.75
B 24 21	.....	3/4, 7/8	15/16, 1 1/2	4.50	5.25	9.75
B 24 22	.....	7/8, 1	1 1/2, 11/16	4.50	5.25	9.75
B 24 23	.....	1, 1 1/8	1 1/16, 1 1/8	4.50	5.25	9.75
C 27 30	1 1/8	.....	1 1/16, 1 7/8	6.00	6.75	12.75
C 27 31	1 1/4	.....	1 1/16, 2 1/16	6.00	6.75	12.75
C 27 32	.....	1 1/8, 1 1/4	1 7/8, 2 1/16	6.00	6.75	12.75
C 27 33	.....	1 1/4, 1 3/8	2 1/16, 2 1/4	6.00	6.75	12.75
C 27 34	.....	1 1/4, 1 1/2	2 1/16, 2 1/16	6.00	6.75	12.75

Pawl, Spring and Pin Complete

For All Handles.....per set	\$1.12
Retaining Screws.....each	.11
Pawl Only.....each	.90
Pawl Pins Only.....each	.11
Pawl Springs Only.....each	.11

Dimensions and Weights of Heads

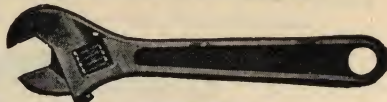
Head No.	A Inches	B Inches	C Inches	D Inches	E Inches	Weight Pounds
1	2	2 1/4	1 3/4	3/16	1 1/2	1
2	3 5/16	2 1/4	1 5/8	3/4	1 1/4	1
3	3 1/4	2 1/4	1 1/8	3/4	1 1/4	1
4	3 5/16	2 1/4	1 9/16	3/4	1 1/4	1
5	3 9/16	2 1/4	1 3/4	1	1 3/8	1 1/4
20	3 11/16	3	2 13/16	13/16	1 3/8	2
21	3 3/4	3	2	3/4	1 7/16	2
22	3 3/4	3	2 3/16	13/16	1 3/8	2
23	4	3	2 13/32	13/16	1 1/2	2
30	4 5/16	3 5/8	2 17/32	7/8	1 5/8	3
31	4 9/16	3 5/8	2 25/32	7/8	1 5/8	3
32	4 1/2	3 5/8	2 11/16	1 1/16	1 3/4	3
33	4 5/8	3 5/8	3	13/16	1 1/2	4 1/4
34	4 3/4	3 5/8	3 7/32	13/16	1 1/2	4 1/2

Dimensions and Weights of Handles

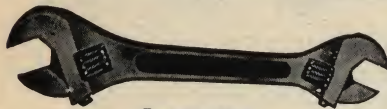
Handle.....	A	B	C
Length Overall.....inches	15	24	27
Weight.....pounds	2	4 1/2	6 1/4

Crescent Adjustable Wrenches

For use around automobiles, gas or gasoline engines, motor boats, machine shops, and in fact any place where a wrench is required that will take various sized nuts, the Crescent Wrench will prove indispensable.



Single End



Double End

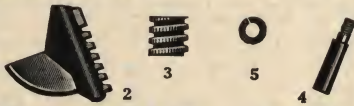
Made of a special analysis carbon tool steel, hardened and toughened by special heat-treating process.

		Single End					
Length.....in.		4	6	8	10	12	15
Polished....ea.	\$.75	\$.75	\$.95	\$ 1.20	\$ 1.75	\$ 2.65	\$ 3.80
Capacity....in.		1/2	3/4	15/16	1 1/8	1 1/2	1 3/4

		Double End			
Length.....in.		4 & 6	6 & 8	8 & 10	10 & 12
Polished....ea.	\$ 1.30	\$ 1.50	\$ 1.75	\$ 2.35	
Capacity....in.		1/2 & 3/4	3/4 & 15/16	1 1/8 & 1 1/2	1 1/2 & 1 3/4

Repair Parts

Repair parts for the regular single end wrench are interchangeable with the double.

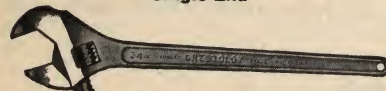


Lgth. In.	No. 2 Jaw	No. 3 Knurl	No. 4 Pin	No. 5 Spring
4	A14J .25	A14K .10	A14P .05	A14S .05
6	A16J .25	A16K .10	A16P .05	A16S .05
8	A18J .30	A18K .12	A18P .05	A18S .05
10	A110J .40	A110K .15	A110P .05	A110S .05
12	A112J .60	A112K .25	A112P .10	A112S .05
15	A115J .85	A115K .35	A115P .10	A115S .05
18	A118J 1.15	A118K .55	A118P .10	A118S .05

Crestoloy Wrenches



Single End



Single End, Tapered Handle



Double End

Made of special alloy steel; chromium plated. Special method of finishing handle prevents it from becoming slippery when used with wet or oily hands. Instantly adjustable to proper size; holds its adjustment until changed.

Packed 1 in a box.

Single End						
No.	Each	Size In.	Cap. In.	THICKNESS Thickest Point	HEAD, IN. Tip of Jaw	Ship. Wt. Oz.
AC14	\$1.00	4	1/2	5/16	1/8	2
AC16	1.00	6	3/4	13/32	7/32	5
AC18	1.25	8	15/16	15/32	1/4	8
AC110	1.50	10	1 1/8	9/16	3/8	13
AC112	2.00	12	1 5/16	5/8	1/2	24
*AC115	3.00	15	1 11/16	15/32	19/32	54
*AC118	5.00	18	2 1/16	1 1/8	1 1/16	84
*AC124	7.50	24	2 7/16	1 13/32	1 7/8	144
Double End						
BC146	\$1.50	{ 4	1/2	5/16	1/8	6
BC168	1.75	{ 6	3/4	13/32	7/32	
		{ 6	3/4	13/32	7/32	9
		{ 8	15/16	15/32	1/4	

Parts

Size In.	Jaws Each	Knurls Each	Pins Each	Springs Each
4	\$.30	\$.13	\$.05	\$.05
6	.30	.13	.05	.05
8	.40	.15	.05	.05
10	.50	.20	.05	.05
12	\$.75	\$.26	\$.10	\$.05
15	1.10	.40	.10	.05
18	1.35	.45	.12	.05
24	2.00	.60	.15	.05

*Has tapered handle.

Westcott Adjustable S Nut Wrenches



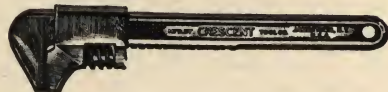
A convenient wrench for general use. Can be used in many places inaccessible to the monkey wrench.

No.	76	78	80	82	84
Per Dozen.....	\$8.00	10.00	12.00	18.00	24.00
Size.....in.	6	8	10	12	14
Opens.....in.	3/4	1	1 3/8	1 5/8	2
Wt. per Box.....lbs.	2 7/8	5 1/2	9 3/4	16 1/2	25 1/2

Extra Parts

Size Wrench.....inches	6	8	10	12	14
Jaw.....each	\$.20	\$.30	\$.40	\$.50	\$.60
Thumb Screw.....each	.10	.15	.20	.25	.30
Pin.....each	.05	.05	.05	.05	.05

Crescent Auto Wrenches



A sturdy, general purpose tool forged from special analysis steel. Hardened and oil tempered. Polished finish.

Teeth in handle are accurately milled, giving quick, easy adjustments. Jaw faces milled squarely so that they grip along their entire surface. Spring under adjusting knurl holds setting of wrench after it has been adjusted.

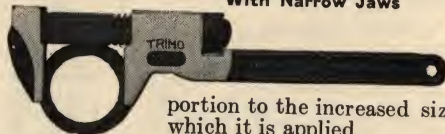
The 11-inch size is of massive construction for extra heavy service.

Packed one in a box.

No.	Size Inches	Capacity Inches	Weight Ounces, Each	Each
O19	9	3	14	\$1.00
O111	11	2 7/8	24 1/2	1.50

Trimo Adjustable Spud Wrenches

With Narrow Jaws



So constructed that the leverage increases in proportion to the increased size of the nut to which it is applied.

Threads of both jaw and nut rounded.

Price, 12-Inch.....per dozen \$28.00

No. 62 Bemis & Call Screw Wrenches



Length..inches	6	8	10	12	15	18	21
Opens...inches	7/8	1 1/4	1 3/4	2 1/4	2 5/8	3	4 1/8
No. 62.per doz.	\$15.00	18.00	22.00	28.00	38.00	48.00	58.00

No. 46 Bemis & Call Combination Pipe and Nut Wrenches



Head, bar and shank one-piece steel forging. Pipe grip is of hardened steel. Can be replaced. Provided with a sleeve whereby whole hand can be applied in making adjustments.

Natural rust-proof finish. Disced jaws.

Put up in packages of 6 wrenches except size 18-inch.

Size.....inches	12	15	18
No. 46.....per dozen	\$36.00	48.00	87.00
Adj. to Pipe Diameter.inches	1/8 to 1	1/4 to 1 1/4	3/8 to 2
Weight per Dozen.....pounds	38	57	85

Hargrave Brace Socket Wrenches



Made of malleable iron, hardened. Each size is accurately drifted to United States standard nut sizes. A shoulder prevents nut working far up into wrench.

With Square Openings

No.	Per Doz.	*Open- ing In.	MACH. Nut	BOLT, In. Head	Lag Screw Head In.	Stove Bolt Nut In.	Cap Screw Head & Nut, In.	Machine Screw Nut In.
151	\$3.50	5/16	1/8	3/16	1/4	1/2	..	6
152	3.50	3/8	3/16	1/4	1/4	5/32 and 3/16	..	8 and 10
153	4.00	7/16	..	..	..	7/32	..	12
154	4.50	1/2	1/4	5/16	5/16	1/4	..	14
155	5.00	9/32	5/16	3/8	3/8	5/16	..	5/16
156	6.00	5/8	..	..	..	3/8	..	3/8
156	6.50	11/16	3/8	7/16	7/16	..	..	..
157	7.00	25/32	7/16	1/2	1/2	..	..	..
158	7.50	7/8	1/2	9/16	9/16	..	..	..
159	8.00	1	9/16	5/8	5/8	..	..	..
160	9.00	1 1/8	5/8	3/4	3/4	..	..	..
161	10.00	1 1/4	3/4	..	..	..	..	..

With Hexagon Openings

No.	Per Doz.	*Open- ing In.	MACH. Nut	BOLT, In. Head	Lag Screw Head In.	Stove Bolt Nut In.	Cap Screw Head & Nut, In.	Machine Screw Nut In.
165	\$3.50	5/16	1/8	3/16	..	..	..	6
166	3.50	3/8	3/16	1/4	..	..	3/16	8 and 10
167	4.00	7/16	..	..	..	..	7/16	12
168	4.50	1/2	1/4	5/16	..	..	3/16	14
169	5.00	9/32	5/16	3/8	..	..	3/8	5/16
170	6.00	5/8	..	..	..	..	7/16	3/8
171	6.50	11/16	3/8	7/16	..	..	..	..
172	7.00	25/32	7/16	1/2	..	..	1/2	..
173	7.50	7/8	1/2	9/16	..	..	9/16	..
1731	8.00	1	9/16	5/8	..	..	..	..
1732	9.00	1 1/8	5/8	3/4	..	..	..	..
1733	10.00	1 1/4	3/4	..	..	..	..	..

*Size opening is measurement from flat to flat.

No. T-73 Spintite Wrench Bench Sets

This wrench is built and works like a screwdriver and is for miscellaneous use in the home, radio shop, electrical shop, industrial plant, etc.

Set consists of 7 wrenches in a convenient holder.

Shipping weight, 3 pounds, 6 ounces.



No. T-73, Complete Set with Stand.....each \$5.25
Stand Only.....each 1.40

Stevens Walden Spintite Wrenches



For use in the home, in the radio shop, the electrical shop, the industrial plant, on the automobile, etc. Spintites are time tested.

Packed 12 in a carton.

Approximate shipping weight per carton, 3 pounds.

No.	Each	Hex. Size In.	Length Over All Inches	Machine Screw Nut	No.	Each	Hex. Size In.	Length Over All Inches	Machine Screw Nut
3406	\$.60	3/16	6	2/56	3412	\$.60	3/8	6	10/32
3407	.60	7/32	6	3/48	3414	.80	7/16	7 1/8	12/32
3408	.60	1/4	6	4/40	3416	.80	1/2	7 1/8	14/32
3409	.60	9/32	6	5/40	3418	1.45	9/16	7 1/8	..
3410	.60	5/16	6	6/32	3420	1.45	5/8	7 1/8	..
3411	.60	11/32	6	8/32	..	..	..	..	..

Champion Steel Rivet Forges



Made with bronze and steel gears and adjustable ball bearings throughout.

Hearth of 10 gage steel, tuyere plate heavy cast iron.

Used by railroads, bridge builders, boiler and structural iron workers.

It will produce blasts to weld 3 1/2 to 4-inch iron in ten minutes. Crank turns either way to make blast. Each turn of crank produces 46 revolutions of fan wing.

No.....	401	401 1/2	401 3/4
Each.....	\$36.00	39.00	43.00
Hearth in.	18	22	24
Fan.....in.	9	9	10
Ht.....in.	30	30	30
Wt.....lb.	135	145	150

No. 11 Stanley-Atha Straight Lip Tongs

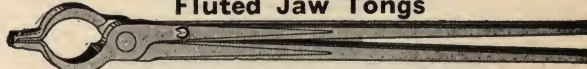


Straight lip. This tong has a V notch in each jaw so that it will firmly hold square or round work.

Black japan finish.

No.	Each	Size Square Inches	Length Inches	Weight Pounds per Dozen
11A	\$1.25	1/4	18	32
11C	1.30	3/8	20	34
11D	1.30	1/2	20	34
11E	1.50	5/8	22	37
11F	1.50	3/4	22	37
11G	1.55	7/8	24	39
11H	1.55	1	24	39
11J	2.15	1 1/2	26	42

No. 12 Stanley-Atha Curved Lip, Fluted Jaw Tongs



For holding bolts or other round work. The opening between the jaws and hinge allows ample space for the head of a bolt.

Black japan finish.

No.	Length Inches	Holds Rounds Inches	Wt., Lbs. per Dozen	Each
12A	18	1/4	32	\$1.45
12C	20	3/8	34	1.50
12D	20	1/2	34	1.50
12E	22	5/8	37	1.75
12F	22	3/4	37	1.75
12G	24	7/8	39	1.75
12H	24	1	39	1.85
12J	26	1 1/2	42	2.15

No. 16 Stanley-Atha Gad Tongs



For general forging purposes. Black japan finish.

Length.....inches	18	20	24
No. 16.....each	\$1.45	1.50	1.70
Weight per Dozen.....pounds	31	33	38

No. 13 Stanley-Atha Double Pick-Up Blacksmiths' Tongs





Used for picking up hot work, either flat or round.

Length.....inches	18	24
No. 13.....each	\$1.65	1.95
Weight per Dozen.....pounds	31	38

Stanley-Atha Top and Bottom Swages

All bottom anvil tools regularly furnished with $\frac{15}{16}$ -inch shanks for 1-inch anvil hole. These swages are used for shaping, sizing and smoothing round forgings. The size given is the diameter of round bar to which swage will finish.

Finished in black.



Size Inches	Each	WEIGHT, POUNDS		
		No. 1190 Top	No. 1200 Bottom	
$\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$	\$1.45	$3\frac{1}{4}$	$2\frac{1}{4}$	
$\frac{5}{8}$, $\frac{3}{4}$	1.55	$3\frac{1}{4}$	$2\frac{1}{4}$	
$\frac{7}{8}$	1.80	$3\frac{1}{4}$	$2\frac{1}{4}$	
1	1.80	$3\frac{1}{4}$	4	
$1\frac{1}{4}$	1.95	4	4	
$1\frac{1}{2}$	2.20	4	4	
$1\frac{3}{4}$	2.35	4	4	
2	2.65	4	4	
$2\frac{1}{2}$	3.35	$5\frac{1}{2}$	$5\frac{1}{2}$	
3	3.85	$5\frac{1}{2}$	$5\frac{1}{2}$	

Stanley-Atha Top and Bottom Fullers

Fullers are used for necking and grooving forgings, and also for drawing down a forging to a smaller size.

All bottom anvil tools regularly furnished with $\frac{15}{16}$ -inch shanks for 1-inch anvil hole.

Finished in black.

Size Inches	Each	WEIGHT, POUNDS		
		No. 1210 Top	No. 1220 Bottom	
$\frac{1}{4}$	\$1.50	$2\frac{1}{2}$	$2\frac{1}{4}$	
$\frac{3}{8}$	1.50	$2\frac{1}{2}$	$2\frac{1}{4}$	
$\frac{1}{2}$	1.50	$2\frac{1}{2}$	$2\frac{1}{4}$	
$\frac{3}{4}$	1.55	$2\frac{1}{2}$	$2\frac{1}{4}$	
1	1.80	3	$2\frac{3}{4}$	
$1\frac{1}{4}$	2.00	$3\frac{1}{2}$	4	
$1\frac{1}{2}$	2.20	$3\frac{3}{4}$	4	
$1\frac{3}{4}$	2.35	$3\frac{3}{4}$	4	
2	2.65	$3\frac{3}{4}$	$4\frac{1}{2}$	

No. 1230 Stanley-Atha Flatteners

Black finish with face polished.

For smoothing and finishing flat forgings.

Size.....inches	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
No. 1230.....each	\$1.65	2.20	2.75	3.85	5.60
Weight.....pounds	2	$3\frac{3}{4}$	$5\frac{1}{4}$	7	8

No. 1310 Stanley-Atha Regular Hardies

A hardie is a tool which sets in the anvil and is used for cutting off forgings.

Black finish with polished bit.

Size Sq. Shank.....in.	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$
No. 1310.....each	\$.75	.85	1.00	1.10	1.45	1.50
Width Bit.....in.	$1\frac{5}{8}$	$1\frac{7}{8}$	2	$2\frac{1}{4}$	$2\frac{1}{2}$	$2\frac{1}{2}$
Weight.....lbs.	1	$1\frac{1}{4}$	$1\frac{3}{4}$	2	$2\frac{1}{2}$	$2\frac{3}{4}$

No. 1300 Stanley-Atha Blacksmiths' Hot Chisels

Black finish with polished bit.

Square at Eye In.	Each	Cutting Edge In.	Lgth. In.	Wt. Lbs.	Square at Eye In.	Each	Cutting Edge In.	Lgth. In.	Wt. Lbs.
$1\frac{1}{4}$	\$1.20	$1\frac{5}{8}$	$7\frac{3}{4}$	2	$1\frac{1}{2}$	\$1.65	2	$8\frac{1}{4}$	3
$1\frac{3}{8}$	1.40	$1\frac{3}{4}$	$7\frac{3}{4}$	$2\frac{1}{2}$	$1\frac{3}{4}$	2.65	$2\frac{1}{4}$	$9\frac{3}{4}$	5

No. 1290 Stanley-Atha Blacksmiths' Cold Chisels

Silicon manganese alloy steel.
Black finish with polished bit.

Square at Eye.....inches	$1\frac{1}{4}$	$1\frac{3}{8}$	$1\frac{1}{2}$	$1\frac{3}{4}$
No. 1290.....each	\$1.20	1.40	1.65	2.65
Cutting Edge.....inches	$1\frac{1}{4}$	$1\frac{3}{8}$	$1\frac{1}{2}$	$1\frac{3}{4}$
Length.....inches	$6\frac{1}{2}$	$6\frac{3}{4}$	7	$8\frac{1}{8}$
Weight.....pounds	2	$2\frac{1}{2}$	3	5

No. 1270 Stanley-Atha Blacksmiths' Round Punches

Size.....in.	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1
No. 1270.....ea.	\$1.20	1.20	1.20	1.45	1.50	1.65	1.95
Stock at Eye in.	$1\frac{1}{4}$	$1\frac{1}{4}$	$1\frac{3}{8}$	$1\frac{3}{8}$	$1\frac{1}{2}$	$1\frac{5}{8}$	$1\frac{3}{4}$
Length.....in.	$7\frac{1}{4}$	$7\frac{1}{2}$	$7\frac{3}{4}$	8	$8\frac{1}{4}$	$8\frac{1}{2}$	$8\frac{3}{4}$
Weight.....lbs.	$1\frac{5}{8}$	$1\frac{1}{2}$	2	$2\frac{1}{4}$	$2\frac{1}{2}$	3	$3\frac{3}{4}$

No. 1321A Stanley-Atha Backing Out Punches

Size.....in.	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$
No. 1321A.....ea.	\$1.15	1.30	1.55	1.65	1.80
Length.....in.	$7\frac{1}{2}$	$7\frac{3}{4}$	8	$8\frac{1}{4}$	$8\frac{1}{2}$
Weight.....lbs.	$1\frac{1}{2}$	$1\frac{7}{8}$	$2\frac{1}{8}$	$2\frac{1}{2}$	3

No. 1060D Stanley-Atha Button Head Rivet Sets

For Rivets In.	Each	Size Cup Inches	Length Inches	Weight Pounds
$\frac{1}{2}$	\$2.10	$\frac{7}{8}$	$6\frac{1}{4}$	$3\frac{1}{2}$
$\frac{5}{8}$	2.50	$1\frac{1}{8}$	7	$5\frac{1}{2}$
$\frac{3}{4}$	2.50	$1\frac{1}{4}$	7	$5\frac{1}{2}$
$\frac{7}{8}$	3.10	$1\frac{1}{2}$	7	7

No. 1060C Stanley-Atha Barrel Type Drift Pins

Special High Carbon Steel

Size.....in.	$\frac{9}{16}$	$1\frac{1}{16}$	$1\frac{3}{16}$	$1\frac{5}{16}$	$1\frac{1}{2}$
No. 1060C.....ea.	\$.30	.30	.30	.35	.40
Length.....in.	$6\frac{1}{2}$	$6\frac{3}{4}$	$7\frac{1}{2}$	$7\frac{7}{8}$	$8\frac{5}{8}$
Weight.....oz.	6	9	14	20	23

Warwood Crow Bars

No. 160 Pinch Point

No. 161 Wedge Point

Made of high carbon steel.

Crow bars are shipped loose.

Wt. Lb.	Each	Sq. In.	Lgth. Ft.	Wt. Lb.	Each	Sq. In.	Lgth. Ft.
10	\$1.44	1	4	20	\$2.78	$1\frac{1}{4}$	$5\frac{1}{4}$
12	1.62	$1\frac{1}{8}$	$4\frac{1}{4}$	22	2.90	$1\frac{3}{8}$	$5\frac{1}{2}$
14	1.82	$1\frac{1}{8}$	$4\frac{1}{2}$	24	2.96	$1\frac{3}{8}$	$5\frac{3}{4}$
16	2.10	$1\frac{1}{4}$	$4\frac{3}{4}$	26	3.56	$1\frac{1}{2}$	6
18	2.42	$1\frac{1}{4}$	5	30	4.34	$1\frac{1}{2}$	$6\frac{1}{2}$

Larger sizes made on special order.

White Seal Hickory Post Maul Handles



Good quality, all white.

Packed 1 dozen in carton; weight 20 pounds.

36-Inch.....per dozen \$9.60

Blue Seal Hickory Carpenters' Adze Handles



Second growth all white straight grain.

Packed 1 dozen in carton; weight 20 pounds.

34-Inch.....per dozen \$14.80

Blue Seal Hickory Poll Pick Handles

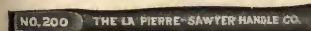


Second growth all white straight grain.

Packed 1 dozen in carton; weight 20 pounds.

34-Inch.....per dozen \$14.40

Blue Seal Adze Eye Hickory Hammer Handles



Second growth all white straight grain.

Packed 1 dozen in carton.

Size.....inches	12	13	14
Per Dozen.....	\$3.90	3.90	3.90
Weight per Dozen.....pounds	4	5	6

Blue Seal Machinists' and Blacksmiths' Hickory Hammer Handles

Second growth all white straight grain.

Packed 1 dozen in carton.

Size.....inches	12	13	14	16	18	20
Per Dozen.....	\$3.90	3.90	3.90	4.30	4.90	5.80
Weight per Dozen...lbs.	4	4½	5	5½	6½	7½

Blue Seal Shingling and Broad or Bench Hickory Hatchet Handles



Second growth all white straight grain.

Packed 1 dozen in carton.

Size.....inches	14	15	16	18
Per Dozen.....	\$3.90	3.90	4.30	5.30
Weight per Dozen.....pounds	5½	6½	8	9

Single and Double Bit Hickory Axe Handles

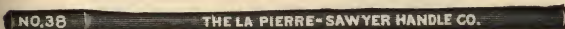


Second growth all white straight grain.

Packed 1 dozen in carton; weight 20 pounds.

Grade.....	Blue Seal	White Seal
Size.....inches	36	36
Per Dozen.....	\$14.40	10.20

Hickory Sledge Handles



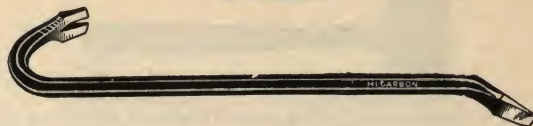
Second growth all white straight grain.

Packed 1 dozen in carton.

Grade.....	Blue Seal	White Seal
Size.....inches	30	36
Per Dozen.....	\$11.80	12.80
Weight per Dozen.....pounds	15	18

Stanley-Atha Goose Neck Ripping Bars

Hi-Carbon



Made of hexagon tool steel, drop-forged.

Will not easily bend or break.

Body black baked japan.

Packed in bulk.

No.....	112	118	124	130	136	2136
Each.....	\$.60	.75	.85	1.00	1.10	1.45
Size.....inches	1½x12	5/8x18	¾x24	¾x30	¾x36	7/8x36
Weight.....pounds	1	2	3¾	4½	5¼	7¾

Solid Copper Hammers



Made from selected pure copper, smooth finish and perfect faces.

Sizes carried in stock without handles: ½, 1, 1½, 2, 2½, 3, 4, 5, 6, 8 and 10 pounds.

Prices upon application.

No. 132 Warwood Blacksmiths' Sledges



Cross pein.

Made of fine grain, high carbon steel; hardened and drawn.

Black enamel finish; sizes 10 pounds and under, polished face.

Weight...pounds	6	8	10	12	14	16
No. 132...inches	\$1.60	1.82	2.04	2.50	3.02	3.46
Length...inches	6½	7	7½	8	8½	9

No. 134 Warwood Blacksmiths' Sledges

Double Face



A general purpose double face sledge of high carbon steel, hardened and drawn to resist hard work.

Weight Pounds	Each	Weight Pounds	Each	Weight Pounds	Each
2	\$.62	6	\$1.38	16	\$3.02
2½	.78	8	1.60	18	3.46
3	.96	10	1.94	20	3.78
4	1.12	12	2.26	24	4.66
5	1.28	14	2.58	..	....

Hickory Railroad Pick Handles



Second growth all white straight grain.

Packed 1 dozen in a carton.

Grade.....	Blue Seal	White Seal
Size.....inches	36	36
Per Dozen.....	\$17.20	12.00
Weight, per Dozen.....pounds	33	30

White Seal Hickory Grub Hoe Handles



Good quality all white straight grain. Carton, 1 dozen. White Seal 36 Inch Grub Hoe Handles...per dozen \$12.00

Rubber Mallets



Used by furniture and cabinet makers, foundries, bottling works, etc.

Compounded from high grade stock that will not chip or wear. With hickory handles inserted.

No.	1	2	3
Each.....			
Length.....in.	3 $\frac{1}{16}$	4	5
Face.....in.	2 $\frac{1}{8}$	2 $\frac{1}{4}$	2 $\frac{3}{8}$
Diam. in Center.....in.	2 $\frac{3}{16}$	2 $\frac{1}{2}$	3 $\frac{1}{4}$
Approx. Wt. Including Handl'e.....lbs.	1	1 $\frac{1}{4}$	2 $\frac{1}{4}$

Miller Composition Mallets



This mallet lasts a lifetime of average service.

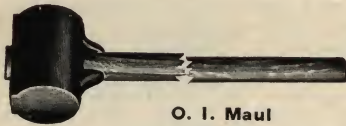
It will outwear wood, rubber, rawhide or lead mallets.

Strike is similar to wood mallets. Little if any rebound.

Perfectly balanced. Will not split or bruise.

No.	5	8	16	24	41
Per Dozen.....	\$6.75	8.00	13.50	18.50	30.00
Size.....inches	1 $\frac{1}{4}$ x3	2x3 $\frac{1}{2}$	2 $\frac{1}{2}$ x4 $\frac{1}{2}$	2 $\frac{7}{8}$ x5 $\frac{1}{8}$	3 $\frac{1}{2}$ x5 $\frac{1}{2}$
Total Lgth. Hdle..in.	10	11	12	14	13
Wt. without Hdle..oz.	4	8	16	24	40

No. 88 Cast Iron Handled Post Mauls



O. I. Maul

Made of cast iron, smooth japanned finish, lipped eye.

Weight Pounds Each	Price Each	Weight Pounds Each	Price Each
10	\$1.40	16	\$1.88
12	1.44	18	2.16
14	1.68	20	2.40

Hickory Sewer Mauls or Ring Beetles

With Bark on, for Driving Sheet Piling



Fitted with heavy 36-inch hickory handle and welded soft steel bands, $\frac{5}{16}$ x1 $\frac{3}{4}$ inches.

No.	44-B	44-C	44-E
Size.....inches	5x11	6x12	7x13
Wt. Pounds.....each	16	23	28
Sewer Mauls or Ring Beetles.....each	\$2.80	3.16	3.86

No. 104 $\frac{1}{2}$ Standard Tinnors' Hickory Mallets

Made of good virgin growth hickory. Handle is of hardwood securely driven in, but not wedged. Is thoroughly seasoned but not varnished.

Length of head, 5 $\frac{1}{2}$ inches; diameter of face, 2 $\frac{1}{2}$ inches; length of handle over all, 12 inches; handle projects out of head, 9 $\frac{1}{2}$ inches.

Price, No. 104 $\frac{1}{2}$, Weight, 14 Ouncesper dozen

No. 101 Standard Round Hickory Mallets

Made of the best virgin growth hickory. Handle is of hardwood, securely wedged. Varnished head.

Length of head, 5 inches; diameter of face, 3 inches; length of handle over all, 11 $\frac{3}{4}$ inches; handle projects out of head, 8 $\frac{3}{4}$ inches.

Price, No. 101, Weight Each, 1 $\frac{1}{16}$ Pounds ..per dozen

Chicago Rawhide Mallets

Not Loaded



Has solid rawhide head, hardwood handle. Rawhide being a non-conductor of electricity, it is adapted to electrical work. Used where repairs to machinery are made.

No.	0	1	2	3	4	5	6
Per Dozen.....	\$7.92	9.60	11.16	12.72	16.08	35.64	40.32
Handles Per doz.	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Diameter.....in.	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	1 $\frac{3}{4}$	2	2 $\frac{3}{4}$	2 $\frac{3}{4}$
Length.....in.	2 $\frac{1}{8}$	3	3 $\frac{1}{4}$	3 $\frac{3}{4}$	3 $\frac{1}{2}$	4 $\frac{1}{4}$	4 $\frac{3}{4}$
Weight.....oz.	2	3 $\frac{1}{2}$	6	7 $\frac{1}{2}$	10	21	23

Rawhide Faced Hammers

Rawhide Faces—Inserted in Malleable Iron

For use where it is desired to strike a hard blow without injuring delicate surfaces.

Metals. Metal part is practically indestructible and rawhide face is renewable.



No.	Per Doz.	Diam. In.	Wt. Lbs.	Hdles. per Doz.	Faces per Doz. Pcs.
0	\$16.20	1	1 $\frac{1}{2}$	\$1.50	\$5.64
1	18.96	1 $\frac{1}{4}$	1 $\frac{1}{8}$	1.50	6.00
2	24.12	1 $\frac{1}{2}$	1 $\frac{1}{8}$	1.50	7.20
3	28.80	1 $\frac{3}{4}$	2 $\frac{1}{4}$	1.50	9.12
4	41.76	2	4	1.50	15.84
5	52.80	2 $\frac{3}{4}$	5 $\frac{1}{2}$	1.50	22.44

Kaalot Patent Buckskin Fiber Mallets



Mallet is unsplitable and will not jam. Mallet has a lacquer finish.

Handle is polished white hickory.

No.	0	1	2	3	3 $\frac{1}{2}$	4
Each.....	\$.34	.40	.55	.60	.75	.75
Size.....in.	1 $\frac{1}{4}$ x3	1 $\frac{1}{2}$ x3 $\frac{1}{2}$	2x4	2 $\frac{1}{2}$ x4 $\frac{1}{2}$	2 $\frac{1}{2}$ x5 $\frac{1}{2}$	3x5
Weight...oz.	3	5	8	16	22	26

No. 124 Warwood Hand Drilling or Stone Cutters' Hammers



Short or New England Pattern

Made of fine grain, high carbon steel. Black enamel finish; polished face.

Weight.....pounds	2	2½	3	3½	4
No. 124.....each	\$1.16	1.28	1.28	1.36	1.46
Length.....inches	3½	3¾	4	4¼	4½
Size Eye.....inches	¾	¾	15/16	15/16	15/16

No. 5 V & B Magnetic Pattern Tack Hammers



Polished. Semi-adze eye. Two-tone hickory handle. Packed 6 in box.

No.	Lgth., Head Inches	Length Inches	Wt., Lbs. per Doz.	Price Each
5	4¾	11½	6¾	\$1.50

No. 123 Warwood Ship or Top Mauls



Made of fine grain, high carbon steel hardened and drawn. Black enamel finish; polished face.

Weight.....pounds	4	5	6
No. 123.....each	\$1.72	1.82	2.16
Length.....inches	8¼	8¾	9

No. 138 Warwood Bush Hammers



Cut teeth, 25 and 36 teeth.

Made of fine grain, high carbon steel; hardened and drawn.

Black enamel finish.

Weight.....pounds	4	6	8
No. 138.....each	\$4.84	7.26	9.68
Length.....inches	6	6½	7

Grady Wedges



No. 2



No. 3



No. 4

Scientifically designed for all sizes of hammers, hatchets, single and double bitted axes, etc.

Packed in bulk.

No.....	2	3	4	15
Weight per Gross.....pounds	*13	*18	1¾	7½
Per Gross.....	\$2.40	2.40	3.60	7.20

*Ounces.

Grady Wedges



No. 5



No. 10

Scientifically designed for all sizes of hammers, hatchets, single and double bitted axes, etc.

Illustrations show actual sizes. Packed in bulk.

No.....	5	10	15
Per Gross.....	\$3.60	4.80	7.20
Weight per Gross.....pounds	25½	4¾	7½

V & B Magnetic Bill Posters' Hammers

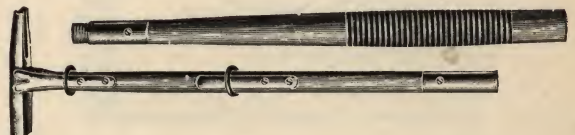


Made of magnet steel. Polished, plain eye. Two-tone hickory handle.

Packed 6 in a box, 6 dozen in a case.

No.....	45	55	85
Each.....	\$1.40	1.46	1.65
Length Head.....in.	3½	4	4½
Weight of Head.....oz.	4	5	8
Length Over All.....in.	11½	11½	11½
Weight per Dozen.....lbs.	5	6	8¼

No. 56 V & B Bill Posters' Magnetic Hammers

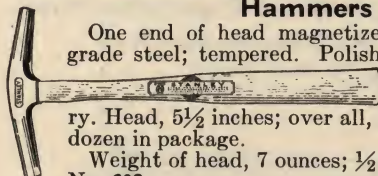


It is polished. Has plain eye, select white ash handle.

No.	Length Head Inches	Length Over All Inches	Handle Sections Inches	Heads Each Weight Ounces	Weight Pounds per Dozen	Price Each
56	4	36	2-18	5	11	\$3.40

Packed 2 in a box.

No. 602 Stanley Upholsterers' Magnetic Hammers



One end of head magnetized. Forged from high grade steel; tempered. Polished. Handles from selected, straight grained young hickory. Head, 5½ inches; over all, 10¾ inches. Packed 12 dozen in package.

Weight of head, 7 ounces; ½ dozen, 3 pounds.

No. 602.....each \$1.85

Johnson Square Shank Tack Claws



Packed 12 in a cardboard box.

No.	Shank In.	Claw Steel	Description, Handle	Price per Gross
146	¼	Steel	Rosewood Finish	\$13.50
147	5/16	"	Natural Wood	15.00
148	3/8	"	Rosewood Finish. Nickel Ferrule	17.50

True Temper Dynamic Nail Hammers**Satin Smooth Rustless Black Finish**

Forged from finest selected hammer steel.
Has butt-beveled grip.
Second growth white hickory handle, hand-shaped.
Packed $\frac{1}{3}$ dozen in display carton.

No.	D10	D16
Per Dozen.....	\$15.00	15.00
Length Over All.....inches	12	13
Weight Head.....ounces	10	16
Ship. Weight per Dozen.....pounds	12	18

No. DR18 True Temper Dynamic Ripper Hammers**Satin Smooth Rustless Black Finish**

Forged from finest selected hammer steel.
Polished poll. Flat oval handle with butt beveled grip with natural finish. Packed $\frac{1}{3}$ dozen in display carton.

No.	DR18
Per Dozen.....	\$18.00
Length Overall.....inches	13 $\frac{1}{2}$
Weight Head.....ounces	18
Shipping Weight per Dozen.....pounds	21

True Temper Vanadium Nail Hammers**Vanadium Tool Steel—Hexagon Neck Full Polished Finish**

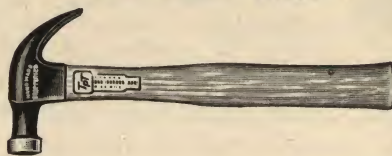
Round poll.
Octagon neck handle with natural finish.
Packed $\frac{1}{3}$ dozen in display carton.

No.	11	11 $\frac{1}{2}$	12
Per Dozen.....	\$21.00	18.00	18.00
Length Overall.....inches	14	13	13
Weight Head.....ounces	20	16	13
Shipping Weight per Dozen...pounds	22	18	15

True Temper Vanadium Ripper Hammers**Vanadium Tool Steel—Hexagon Neck Full Polished Finish**

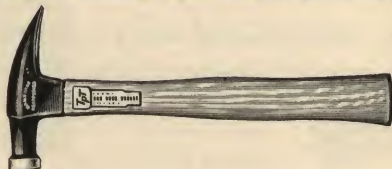
Round poll.
Octagon neck handle with natural finish.
Packed $\frac{1}{3}$ dozen in display carton.

No.	71	71 $\frac{1}{2}$
Per Dozen.....	\$21.00	18.00
Length Overall.....inches	14	13
Weight Head.....ounces	20	16
Shipping Weight per Dozen.....pounds	22	18

Hand Made Drop Forged Nail Hammers**Bell Face or Round Neck Semi-Smooth Finish**

Forged from finest selected hammer steel.
Polished poll. Oval handle with natural finish.
Packed $\frac{1}{3}$ dozen in carton.

No.	311 $\frac{1}{2}$	312	313
Per Dozen.....	\$10.20	10.20	9.60
Length Overall.....inches	13	13	12
Weight Head.....ounces	16	13	7
Ship. Weight per Dozen.....pounds	18	15	9

Hand Made Drop Forged Ripper Hammers**Bell Face or Round Neck—Semi-Smooth Finish**

Forged from finest selected hammer steel.
Polished Poll. Oval handle with natural finish.
Packed $\frac{1}{3}$ dozen in carton.

No.	371 $\frac{1}{2}$
Per Dozen.....	\$10.20
Length Overall.....inches	13
Weight Head.....ounces	16
Shipping Weight per Dozen.....pounds	18

V&B Vanadium Nail Hammers**Chromium Plated Head—Octagon Head Round Face**

Finest grade octagon neck handle.
Patented wax hole in end of handle to wax nails.

No.	41	41 $\frac{1}{2}$	42
Each.....	\$2.66	\$2.66	\$2.66
Length.....inches	14	13	13
Weight Each.....ounces	20	16	13

V&B Vanadium Ripping Hammers**Chromium Plated Head—Octagon Neck Round Face**

Finest grade octagon neck handle.
Packed 4 in a box.

No.	31	31 $\frac{1}{2}$
Each.....	\$2.66	2.66
Length.....inches	14	13
Weight Each.....ounces	20	16
Weight per Dozen.....pounds	22	18

V & B Adze Eye Bell Face Nail Hammers

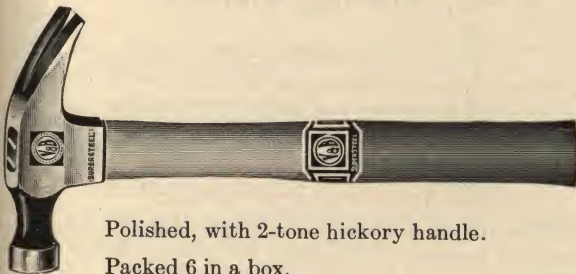


Heads are drop forged from extra refined steel, tempered face and claws. Polished face and head, two-tone hickory handle.

Packed 6 in a box.

No.	11	11½	12	12½	13	14
Each	\$2.00	1.67	1.60	1.53	1.53	1.53
Weight.....ounces	20	16	13	10	7	5
Length.....inches	14	13	13	12½	12	11

V & B Adze Eye Ripping Hammers



Polished, with 2-tone hickory handle.

Packed 6 in a box.

No.	Each	Weight Ounces	Length Inches	Wt., Lbs. per Dozen
11R	\$2.00	20	14	21½
11½R	1.67	16	13	18½
12R	1.60	13	13	14½

V & B Bricklayers' Hammers



Black finish; white hickory handle.

This hammer is also furnished with loose handle so that the head may be redressed. If such is desired specify loose handles or otherwise handle will be shipped wedged.

Packed 4 in box.

No.	Length Inches	Weight Ounces	Wt., Lbs. per Doz.	Each
1	11	26	25½	\$2.00
2	11	34	31½	2.20

Bricklayers' Scutches



Black finish; two-tone handles.

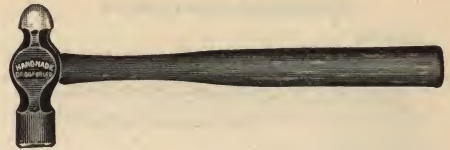
This scutch is also furnished with loose handle so that the head may be redressed. If such is desired specify loose handle or otherwise handle will be shipped wedged.

Packed 4 in a box.

No.	Length Inches	*Weight, Ounces Each	Weight, Pounds per Dozen	Each
10	11	24	24	\$2.00
12	11	32	31½	2.20

*Without handle.

No. BP Hand Made Ball Pein Hammers



A general purpose hammer for other than mechanics' use. Forged steel. Face and pein tempered and polished.

Fitted with strong hickory handle stained walnut.

Size No.	Per Doz.	No. in Carton	Wt. Lb.	Size No.	Per Doz.	No. in Carton	Wt. Lb.
4/0	\$7.80	6	8/16	1	\$9.00	4	1¼
3/0	7.80	6	8/16	2	9.60	4	1½
2/0	7.80	6	12/16	3	10.20	4	1¾
0	8.40	4	1	4	10.80	4	2

True Temper Cross Pein Hammers

Vulcan Finish



Forged from highest quality hammer steel, tempered hard yet tough to prevent chipping on both face and pein. Rust-resisting semi-smooth Vulcan finish.

Fitted with No. 1 hickory handle, natural finish.

Packed 4 in a carton.

No.	VCP-2	VCP-4
Per Dozen	\$18.00	20.60
Weight of Head.....pounds	1½	2
Length Handle.....inches	16½	17½
Weight per Dozen.....pounds	24	34

No. VBP True Temper Vulcan Ball Pein Hammers



Forged from highest quality hammer steel, tempered hard yet tough to prevent chipping on both face and pein.

Fitted with No. 1 hickory handle.

Rust-resisting semi-smooth Vulcan finish.

Size	Per Dozen	Weight Pounds	No. in Carton	Size	Per Dozen	Wt. Lb.	No. in Carton
5/0	\$9.00	¼	6	2	\$11.40	1½	4
4/0	9.00	3/8	6	3	12.60	1¾	4
3/0	9.60	½	6	4	13.50	2	4
2/0	9.60	¾	6	6	15.00	2½	4
0	10.20	1	4	8	18.00	3	4
1	10.80	1¼	4	..	.....	...	..

No. VSP True Temper Straight Pein Hammers

Vulcan Finish



For mechanics' use.

Fitted with No. 1 hickory handle.

Packed 4 in a carton.

Size No.	2	4
No. VSP.....each	\$18.00	20.60
Weight.....pounds	1½	2

No. TMR True Temper Machinists' Riveting Hammers



Full polished, normalized and tempered head.
Fitted with extra grade white hickory handle.
Packed 6 in a carton.

Size No.....	0	1	2	3	4	5
No. TMR..per dozen	\$12.00	12.00	13.80	13.80	15.00	16.20
Weight Head..ounces	4	7	9	12	15	18

True Temper Blacksmith's Hammers

Vulcan Finish



Built for hard service. Forged from highest quality hammer steel. Tempered hard yet tough to prevent chipping. Rust-resisting semi-smooth Vulcan finish.
Fitted with hickory handle, natural finish.
Packed 4 in a carton.

No.	VBS-1	VBS-2	VBS-3	VBS-4
Per Dozen.....	\$16.20	18.00	19.80	21.00
Weight of Head...pounds	2	2½	3	3½
Length Handle....inches	16½	16½	17½	17½
Weight per Dozen..pounds	34	40	48	54

True Temper Single Face Engineer's Hammers

Vulcan Finish



Built for hard service. Forged from highest quality hammer steel. Tempered hard yet tough to prevent chipping. Rust-resisting semi-smooth Vulcan finish.
Fitted with hickory handle, natural finish.
Packed 4 in a carton.

No.	VES-1	VES-2	VES-3	VES-4
Per Dozen.....	\$15.00	16.80	18.00	19.80
Weight of Head...pounds	1½	2	2½	3
Length Handle....inches	15½	16½	16½	16½
Weight per Dozen..pounds	24	34	40	46

True Temper Double Face Engineer's Hammers

Vulcan Finish



Built for hard service. Forged from highest quality hammer steel. Tempered hard yet tough to prevent chipping. Rust-resisting semi-smooth Vulcan finish.
Fitted with hickory handle, natural finish.
Packed 4 in a carton.

No.	VED-1	VED-2	VED-3
Per Dozen.....	\$16.80	18.00	19.80
Weight of Head...pounds	2	2½	3
Length Handle....inches	15½	16½	16½
Weight per Dozen..pounds	32	40	46

No. TTP True Temper Tinner's Paneing Hammers



Designed to specifications of expert sheet metal workers. Made of high quality tool steel, true temper, full polished. Fitted with extra grade white hickory handle.
Packed 6 in a carton.

Size No.....	1	2	3
No. TTP.....each	\$1.15	1.15	1.25
Weight.....ounces	8	12	16

No. TTR True Temper Tinner's Riveting Hammers

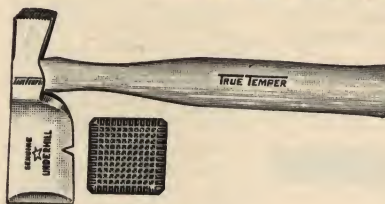


Designed for professional use. Made of high quality tool steel, true temper, full polished. Normalized and tempered heads.

Fitted with extra grade white hickory handle.
Packed 6 in a carton.

Size No.....	1	2	3
No. TTR.....each	\$1.15	1.15	1.25
Weight.....ounces	8	12	16

No. 60-S True Temper Genuine Underhill Star Box Hatchets



Forged from highest quality hatchet steel, normalized and tempered. Head, 17 ounces, is milled and hardened; has 12 rows, 144 points. Hardening prevents points from

breaking or battering.

Thin blades are full polished satin smooth. Cut, 2½ inches.

Handles, 13 inches long, are second growth clear hickory with large oval grip and slender oval neck.

Packed 6 in a carton. Weight per dozen, 25 pounds.

No. 60-S.....per dozen \$30.00

No. 40 True Temper Genuine Underhill Star Lath Hatchets

Chicago Pattern



Forged from high quality, selected hatchet steel, normalized and tempered. Head carefully milled and hardened; 9 rows, 81 points. Thin blade is full polished, satin smooth. Handle is second growth, clear hickory, with large oval grip and slender neck.

Packed ½ dozen in carton.

No.	40
Per Dozen.....	\$30.00
Width Cut.....inches	2½
Weight Head.....ounces	16
Length Handle....inches	13
Weight per Dozen..pounds	23

True Temper Broad Hatchets

Forged from high quality hatchet steel, normalized and tempered. Blade is forged with thick center tapering toward edge; this insures clean bursting of chips without binding in wood. Honed cutting edge. Rustless black finish, with brand deep stamped and filled.

Fitted with extra grade white hickory handle. Handle is carefully driven and securely wedged.

Packed four in a display carton.

No.	BT1	BT2	BT3	BT4
Per Dozen	\$24.00	24.00	27.00	30.00
Length of Cut.....inches	4	4½	5	5½
Length of Handle.....inches	14	15	15	16
Weight per Dozen.....pounds	32	38	42	46

True Temper Half Hatchets

Forged from high quality hatchet steel, normalized and tempered. Blade is forged with thick center tapering toward edge; this insures clean bursting of chips without binding in wood. Honed cutting edge; beveled nail slot. Rustless black finish, with brand deep stamped and filled.

Fitted with extra grade white hickory handle. Handle is carefully driven and securely wedged.

Packed four in a display carton.

No.	HT1	HT2	HT3
Per Dozen	\$19.80	19.80	21.60
Length of Cut.....inches	3¼	3¾	4
Length of Handle.....inches	13	14	15
Weight per Dozen.....pounds	23	27	31

True Temper Flint Edge Half Broad Hatchets

Rustless Black Finish



Forged from high quality steel; normalized and tempered. Fitted with strong hickory handle.

Packed ½ dozen in a carton.

No.	HBT1	HBT2
Per Dozen	\$24.00	\$24.00
Width Cut.....inches	4	4¼
Length Handle.....inches	14	15
Weight per Dozen.....pounds	32	37

True Temper Claw Hatchets



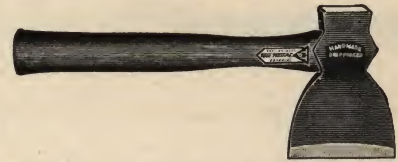
Forged from high quality hatchet steel, normalized and tempered. Blade is forged with thick center tapering toward edge; this insures clean bursting of chips without binding in wood. Honed cutting edge. Rustless black finish, with brand deep stamped and filled.

Fitted with extra grade white hickory handle. Handle is carefully driven and securely wedged. Packed four in a display carton.

No.	CT1	CT2
Per Dozen	\$22.80	22.80
Length of Cut.....inches	3½	4
Length of Handle.....inches	13	14
Weight per Dozen.....pounds	25	30

Kelly Hand Made Broad Hatchets

Drop Forged

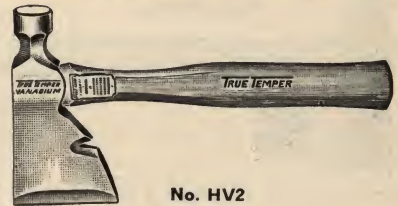


Has polished, single bevel, cutting edge. Black forge finish. Fitted with stained hickory handle; carefully driven and securely wedged.

Packed 6 in a carton.

No.	B1	B2	B3
Per Dozen	\$18.00	18.00	21.00
Cut.....inches	4	4½	5
Length Handle.....inches	14	15	15
Weight per Dozen.....pounds	32	38	42

True Temper Vanadium Half Hatchets



No. HV2

For expert mechanics. Made of high quality tool steel, full polished.

No.	HV1	HV2
Each	\$1.98	1.98
Cut.....inches	3¼	3¾
Length Handle.....inches	13	14
Weight per Dozen.....pounds	30	34

Falls City Better Grade House Axes

Beveled Shape



Forged from the finest grade selected axe steel. Half ground, polished bit; head and poll painted red; blue bevels. Fitted with No. 3 white lacquered hickory handle.

Weight, 2¼ pounds. Size No. 2.

Length handle, 19 inches.

Packed 6 in a carton.

With Handle.....per dozen \$18.00

Hooker Crate Openers



A pocket tool for opening boxes, crates, barrels, prying off lids, hammering, etc. Has a cleft or hook in the side. This makes it effective

for pulling nails which cannot be drawn with end. A nail can be gripped in most any position and at just the right angle to pull easily. One face of hammer head is scored, one plain polished.

Weight, 15 ounces; length, 9 inches; 6 in a box.

Forged from a bar of fine quality steel in one piece. Carefully hardened and tempered, and finished.

Price, No. 40, Natural Fin., Part Pol.....per doz. \$9.00
 " " 42, Polished, Heavily N. P..... " 15.00

No. 70 Nox Tox Crate Openers



Length, 9 inches over all. Weight, 14 ounces. Has a hardened head, tempered claw. One hammer head scored, one plain. Packed 6 in a box. Natural oil finish; polished claw.

No. 70.....per dozen \$6.60

No. 56 Suregrip Nail Pullers



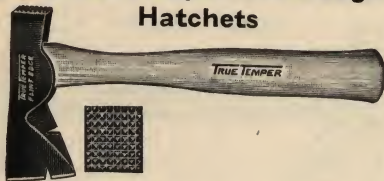
Square shank with hand guard. Automatic claw. Central grip of claws. Broad foot.

Box joint at jaws. Size, 18 inches.

Packed 3 dozen in a case; weight, 166 pounds.

No. 56.....per dozen \$24.00

No. PFE10 True Temper Flint Edge Produce Hatchets



Recommended for use of produce merchants.

Forged from highest quality selected hatchet steel. Head is gun metal finish with nail slot in blade and back. Handle is second growth hickory with full oval grip and slender oval neck.

Cut, 1¹⁵/₁₆ inches. Weight of head, 10 ounces. Length of hatchet, 5 inches. Length of handle, 10¹/₄ inches.

Packed 1/2 dozen in carton; weight per dozen, 17 pounds.

No. PFE10.....per dozen \$18.00

No. BFE14 True Temper Flint Edge Barreling Hatchets



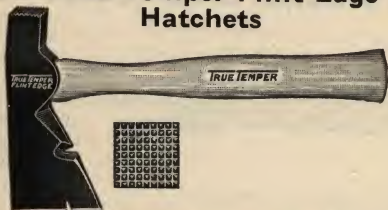
For the use of produce merchants for opening and reheading barrels. Forged from highest quality selected hatchet steel. Head is gun metal finish with nail slot in blade and back. Handle is second growth hickory with full oval grip and slender oval neck.

Cut, 2 inches. Weight of head, 14 ounces. Length of hatchet, 5¹/₈ inches. Length of handle, 11 inches.

Packed 1/2 dozen in carton; weight per dozen, 19 pounds.

No. BFE14.....per dozen \$18.00

No. PFE19 True Temper Flint Edge Packers' Hatchets



For the use of produce merchants for opening and reheading barrels. Forged from highest quality selected hatchet steel. Head is gun metal finish with nail slot in blade and back. Handle is second growth hickory with full oval grip and slender oval neck.

Cut, 2³/₄ inches. Weight of head, 19 ounces. Length of hatchet, 6¹/₂ inches. Length of handle, 12 inches.

Packed 1/2 dozen in a carton; weight per dozen, 25 pounds.

No. PFE19.....per dozen \$21.00

Kelly Falls City Single Bit Axes

Michigan Pattern



Made of good grade of steel, half ground polished bit. Blue bevels, head and poll painted red.

No. 3 white lacquered hickory handle, 36 inches long. Handled or unhandled.

Weight, 2¹/₂ to 5 pounds.

Per Dozen.....

V & B Single Bit Axes

Value Brand—Dayton Pattern



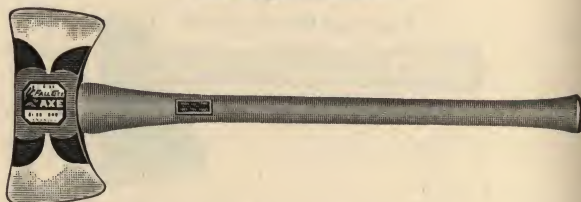
Drop forged and tempered. Maroon finish. Hickory handle; length, 36 inches.

*Wt. Lbs.	Handled Each	Wt. Lbs. per Doz. Handled	*Wt. Lbs.	Handled Each	Wt. Lbs. per Doz. Handled
3	\$2.25	52	4 ¹ / ₄	\$2.66	67
3 ¹ / ₄	2.25	55	4 ¹ / ₂	2.66	70
3 ¹ / ₂	2.25	58	4 ³ / ₄	2.66	73
3 ³ / ₄	2.50	61	5	2.84	76
4	2.50	64	...	...	...

*Does not include handles.

Kelly Falls City Double-Bit Axes

Michigan Pattern



Made of good grade of steel, half ground polished bit. Blue bevels, head and poll painted red.

No. 3 white lacquered hickory handle, 36 inches long. Handled or unhandled.

Weight, 2¹/₂ to 5 pounds.

Per Dozen.....

True Temper Ship Carpenters' Adzes

Spur Head

Made of selected steel. Rust-resisting, semi-smooth black finish; polished, honed cutting edge.

No.	SFE4	SFE4 ¹ / ₂
Per Dozen.....	\$33.00	33.00
Cut.....inches	4	4 ¹ / ₂
Weight per Dozen.....pounds	50	51

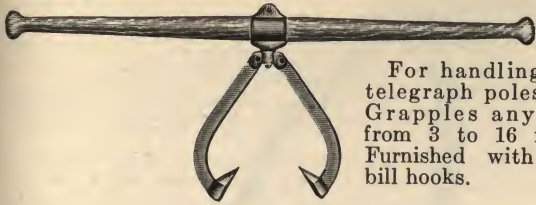
True Temper Carpenters' Adzes

Half Head

Made of selected steel. Rust-resisting, semi-smooth black finish; polished, honed cutting edge.

No.	CFE3 ¹ / ₂	CFE4	CFE4 ¹ / ₂
Per Dozen.....	\$27.00	27.00	27.00
Cut.....inches	3 ¹ / ₂	4	4 ¹ / ₂
Weight per Dozen.....pounds	55	56	57

Timber Carriers or Lug Hooks



For handling ties, telegraph poles, etc. Grapples anything from 3 to 16 inches. Furnished with duck bill hooks.

No.	Per Doz.	SIZE HANDLES Diam. In.	Lgth. Ft.	Style of Handle	No.	Per Doz.	SIZE HANDLES Diam. In.	Lgth. Ft.	Style of Handle
425	\$36.90	2 1/2	4	Maple	489	\$56.90	3	6	Maple
426	37.90	2 1/2	4 1/2	Maple	762	41.30	2 1/2	4	Hickory
427	38.80	2 1/2	5	Maple	763	42.30	2 1/2	4 1/2	Hickory
488	52.90	3	5	Maple	764	43.30	2 1/2	5	Hickory

Timber Carrier or Lug Hook Handles



Sanded and polished. Put up in bundles of 6.

No.	Per Doz.	Diam. In.	Lgth. Ft.	Maple
729	\$12.10	2 1/2	4	770 \$8.80
730	13.40	2 1/2	4 1/2	771 9.80
731	15.00	2 1/2	5	772 10.80
				741 15.30
				742 17.90

No. 442 Malleable Clasp Cant Hooks



With duck bill, round or diamond head hooks. Short toe ring. Regularly furnished with select rock maple handles and duck bill hooks.

Handle, 2 1/4 in. x 4 1/2 ft. Weight, 90 lbs. per doz. No. 442per dozen \$29.80

No. 702 Rock Maple and Beech Cant Hook Handles

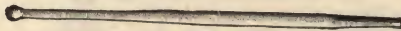


Fig. C-643

Made from carefully selected timber, air seasoned; and carefully turned, sanded and polished.

Regularly packed in bundles of 6. Can be packed in crates at a small additional charge. Weight, 41 lbs. per doz.

No. 702, Not Bored.....per dozen \$9.50

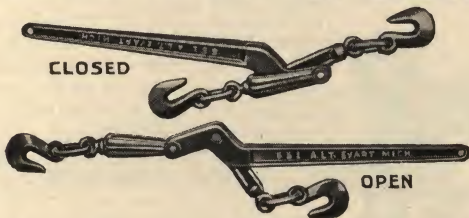
Malleable Clasp Cant Hooks



With 2 1/2-inch diameter selected hickory handle and duck bill hook.

No.	Per Dozen	Lgth. Handle Feet
452	\$33.40	4
211	34.50	4 1/2
212	37.20	5

American All Steel Load Binders



For binding logs, lumber, pipe, hay or loads of every description. Made of forged steel double swivel.

No.	Per Dozen	Size	Made to Take Chain, Inches	Take-Up Inches	Lgth. Lever Inches	Weight Pounds
651	\$30.00	Regular	1/4 to 1/2	5	21 1/2	9
652	42.00	Large	1/2 to 5/8	4 1/2	22 1/2	14
306	24.00	Standard	1/4 to 1/2	5	20	8

Atkins Common Tooth Crosscut Saws



Made of special steel.

Packed 50 in a case.

Prices do not include handles.

Length Feet	No. 337, 14x16 GAGE		No. 338, 14x18 GAGE	
	Each	Wt. Lbs. per Case	Each	Wt. Lbs. per Case
4	\$5.05	235	\$5.65	235
4 1/2	5.65	265	6.45	265
5	6.45	310	7.05	305
5 1/2	7.05	345	7.90	330
6	7.65	410	8.50	400

No. 5 Atkins Perfection Cross Cut Saws



Designed for cutting yellow pine, hardwoods and resinous, knotty timber. Unusual capacity for speed and light running. No. 5, extra wide blade preferable for large heavy timber.

Width at ends 3 1/8 inches; width at center 6 3/8 inches to 7 3/8 inches.

Gage: Toothed edge, 14; back at center 20; back at ends 16.

Length.....feet	5	5 1/2	6	6 1/2	7
No. 5.....each	\$10.00	11.20	13.05	15.05	17.20
Weight.....pounds	5	5 1/2	6 1/2	7 3/4	9

No. 379 Atkins Hollow Back Tuttle Crosscut Saws



This saw is 3 1/2 inches wide at ends and center in all lengths. Packed 50 in a case. Prices do not include handles.

Length.....feet	5	5 1/2	6
No. 379.....each	\$4.25	4.60	5.05
Weight per Case.....pounds	195	225	240

Atkins Tuttle Tooth One-man Cross Cut Saws



Special steel straight back blade, hardened and tempered. Taper ground, clears easily, runs fast. Beech handle, lacquered. Filed and set ready for use. 2 1/2 to 4-ft. saws, 16x18 gage; 4 1/2 to 5-ft. saws, 15x17 gage. No. 490 same as No. 390 except Sheffield quality. Packed 25 in a case.

Length.....ft.	2 1/2	3	3 1/2	4	4 1/2	5
No. 390.....each	\$3.90	\$4.60	\$5.40	\$6.00	\$6.85	\$7.65
No. 490.....each	3.65	4.35	5.20	5.90	6.60	7.30
Width at Point.....in.	2 1/4	2 1/4	2 1/4	2 3/4	2 3/4	2 3/4
Width at Butt.....in.	6 1/2	6 3/4	7	7 1/4	7 1/2	7 1/2
Ship. Weight.....lbs.	120	140	165	180	200	220

No. 11 Atkins Cross-Cut Saw Handles



Length 13 3/8 inches. Climax pattern. Reversible. Cast iron face plate and washer. Malleable bolt with lock rivet feature, preventing rivet from becoming detached. Packed 10 pairs in carton weighing 16 pounds.

No. 11.....per pair \$7.75

No. 8 Atkins Crosscut Saw Handles

No. 8 saw handle is 10½ inches long.
Loop of extra strong high tensile strength steel.

Electric welded.

Gray iron castings socket blue, blade washer yellow.

Malleable Nuts.

No. 8 is packed 10 pairs in a carton weighing 18 pounds.

No. 8, Short Pattern handle, is 7¾ inches long, packed 10 pairs in a carton weighing 17 pounds.

No. 8, Regular.....per pair \$.80
No. 8, Short Pattern.....per pair .80

**No. 202 Atkins Supplementary Crosscut Saw Handles
For One-Man Saws**


Made of thoroughly seasoned air-dried hardwood stock. Has socket and washer of high-grade ferrule steel, and malleable iron bolt with locked rivet feature. Packed one dozen to a carton.

Weight, per dozen, 4 pounds.

No. 202.....per dozen \$4.25

No. 2 Atkins One-man Crosscut Saw Handles


Made of selected hardwood, thoroughly seasoned and dried. Fully lacquered.

Slit only; bored for two screws and one medallion when specified.

Packed 1 doz. in carton; wt., 6¾ lb.

No. 2, Without Screws.....per dozen \$5.55

No. 7 Taintor Saw Sets

Consists of a frame to which are attached two movable handles, an anvil and a punch. A spring opens the handles. It is self-adjusting, excepting the turning of

the anvil to change the setting. The anvil is a block of steel having ten sides and faces which are numbered. The faces are of three lengths, placed in lettered divisions, F for fine, M for medium, and C for coarse teeth.

Packed six in a wooden box.

No.	Weight Pounds per Doz.	Complete Price per Doz.	Anvil	Punch	Set Screw
7	6	\$15.00	\$.25	\$.15	\$.25

Disston Triumph Saw Sets

Can be adjusted to any set required. Malleable iron head and handle; head polished, handles black

finish; hardened steel plungers and anvil. No. 8 is for circular and crosscut saws, 12 gauge and thinner; No. 18 for circular and crosscut saws; 14 gauge and thinner; No. 28 for hand, web and narrow band saws, 16 gauge and thinner, 10 points to the inch and coarser; No. 280 for hand, back, butcher and other saws with teeth 10 to 16 points per inch.

No.	Each	Length	No. in Box	Weight per Dozen
8	\$3.30	11 inches	1	25 pounds
18	2.30	9	1	16
28	1.73	7¼	6	10
280	1.73	7¼	6	

No. 42 Stanley Saw Sets

Shape of body and handle enables user to operate the tool with ease. Saw is held firmly against the gauge while tooth is being set.

Saw teeth are in full view at all times, enabling user to adjust tool to tooth to be set.

Used with hand, back and panel saws and small circular saws up to 18 gage thickness, having 10 points to the inch or less. Packed 1 in a box.

No. 42.....each \$2.10

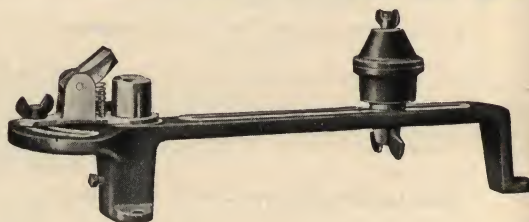
No. 43 Stanley Saw Sets

This saw set can be readily adjusted to give a greater or less set to the teeth of the saw, according to way saw is to be used, for coarse or fine work. As the anvil or part against which the plunger works is graduated, the same adjustment can easily be obtained for duplicate work.

For cross-cut saws. Finished in black. Also furnished with an attachment for setting large, circular saws.

Packed one in a box. Weight, 1½ pounds.

Price, No. 43.....each \$4.75

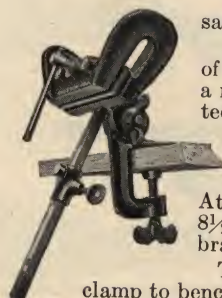
No. 27 Atkins AAA Circular Saw Sets

Accommodates 6 to 30-inch rip or cut-off saws with holes from ½ to 1½ inches. The anvil has four surfaces.

Any set desired may be applied to point of saw for either rip or cut-off saw.

Weight each, 12 pounds.

No. 27.....each \$24.50

No. 7 Disston Circular Saw Filing Clamps

Equipment needed for filing circular saws, 5 to 18 inches in diameter.

Use a taper file for the cutting teeth of combination and cross cut saws, and a mill file, with one round edge, for rip teeth saws.

The frame is made of cast iron, japanned. Plate which clamps filing side of saw, is hardened steel. Attached to the clamp is a steel rod 8½ inches long, upon which slides the bracket supporting the saw.

Thumb screw attachment fastens clamp to bench and holds clamp at various angles.

Packed 1 in a box.

Weight each, 7 pounds.

No. 7.....per dozen \$62.10

No. D-8 Disston Hand Saws
Regular Pattern—Skew-Back

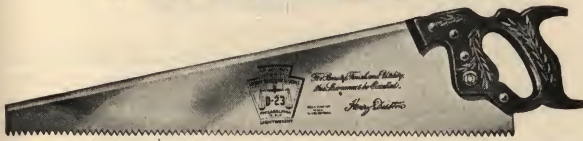


Blade of Disston steel, hardened and tempered; high polish. Thin back, true-taper ground. Cover-top handle of apple-wood; weatherproof finish, brass screws.

Width of 26-inch blade: butt 7 inches, point $2\frac{1}{16}$ inches; other lengths in proportion.

Lgth. Blade Inches	Panel		Hand		Rip	
	20	22	24	26	22	24
No. D-8, per doz.	\$40.10	40.10	45.00	45.00	40.10	45.00
Points to Inch.	8-10-12	8-10-12	7-11	5-11	7	6-7
Wt. per Doz.	15	17	20	23	17	20

No. D-23 Disston Hand Saws
Lightweight Pattern—Straight-Back



Blade of Disston steel, hardened and tempered; high polish. Thin back, true-taper ground. Cover-top handle of apple-wood; weatherproof finish; brass screws.

Width of 26-inch blade: butt $6\frac{1}{2}$ inches, point $1\frac{1}{2}$ inches; other lengths in proportion.

Lgth. Blade Inches	Panel		Hand		Rip
	20	22	24	26	26
No. D-23, per doz.	\$44.20	44.20	49.80	49.80	49.80
Points to Inch.	8-12	8-12	7-11	7-11	$5\frac{1}{2}$ -6
Wt. per Doz.	14	16	18	22	22

No. D-15 Disston Straight Back Light-weight Hand Saws

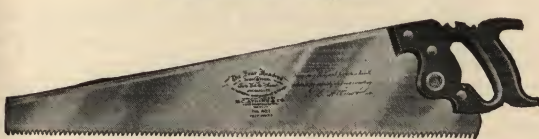


Has rosewood handle, carved, with weatherproof finish and nickel-plated screws. Disston-made steel blade; Disston true-taper grind. Width of 26-inch blade: butt, $6\frac{1}{4}$ inches; point, $1\frac{1}{2}$ inches; 24-inch in proportion.

Packed 2 in a box.

Lgth. Blade Inches	CROSSCUT		Rip	
	24	26	24	26
No. D-15, per doz.	\$75.00	75.00	75.00	75.00
No. Points per In.	7, 8, 9, 10, 11	7, 8, 9, 10, 11	$5\frac{1}{2}$, 6	$5\frac{1}{2}$, 6
Wt. per Doz.	21	25	25	25

No. 401 Atkins Straight Back Cross Cut and Rip Saws
Ship Point Pattern



Silver steel blade, straight back. Rosewood handle, piano finish.

Packed in attractive individual boxes.

Length Inches	Per Dozen	POINTS, PER INCH		WIDTH, INCHES		Weight Pounds per Dozen
		Cross Cut	Rip	At Point	At Butt	
24	\$88.30	8, 9, 10, 11	.....	$1\frac{3}{4}$	$6\frac{1}{4}$	28.3
26	88.30	7, 8, 9, 10, 11	.....	$1\frac{3}{4}$	$6\frac{1}{4}$	28.3
26	88.30	.....	$5\frac{1}{2}$, 6	$1\frac{3}{4}$	$6\frac{1}{4}$	28.3

No. 58-S-6 $\frac{1}{2}$ Atkins Reliable Hand Saws

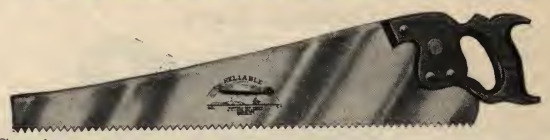


Made of high grade special steel, hardened and tempered, taper ground. Straight back. Ribbon edge. Filed and set. Beech handle, cherry stained, lacquered and polished; attached with three nickeled screws and medallion.

Packed 4 in a box.

Length Inches	POINTS PER INCH		Width Point Inches	Width Butt Inches	Wt. Lb. Doz.	Per Dozen
	Crosscut	Rip				
18	9, 10, 11	.....	$1\frac{3}{8}$	5	12	\$23.30
20	8, 9, 10, 11	.....	$1\frac{5}{8}$	$5\frac{3}{8}$	14	24.70
22	8, 9, 10, 11	7	$1\frac{5}{8}$	$5\frac{7}{8}$	18	26.15
24	7, 8, 9, 10, 11	$5\frac{1}{2}$, 6	$1\frac{3}{4}$	$6\frac{1}{4}$	20	30.35
26	5, 6, 7, 8, 9, 10, 11	$4\frac{1}{2}$, 5, $5\frac{1}{2}$	$2\frac{3}{8}$	$6\frac{3}{4}$	26	33.20

No. 59 Reliable Skew Back Hand Saws



Special steel, hardened, tempered and taper ground; polished ribbon edge and etched. Air dried beech handle, cherry stained and polished. Filed and set.

Lgth. In.	No. Points Crosscut	No. Points Rip	Width at Point Inches	Width at Butt In.	Weight at Pounds per Doz.	Per Dozen
18	9, 10, 11	...	$1\frac{3}{8}$	5	12	\$23.30
20	8, 9, 10, 11	...	$1\frac{5}{8}$	$5\frac{3}{8}$	14	24.70
22	8, 9, 10, 11	7	$1\frac{5}{8}$	$5\frac{7}{8}$	18	26.15
24	7, 8, 9, 10, 11	$5\frac{1}{2}$, 6	$1\frac{3}{4}$	$6\frac{1}{4}$	20	30.35
26	5, 6, 7, 8, 9, 10, 11	$4\frac{1}{2}$, 5, $5\frac{1}{2}$	$2\frac{3}{8}$	$6\frac{3}{4}$	26	33.20
*26	7, 8, 9, 10, 11	$5\frac{1}{2}$	$1\frac{3}{4}$	$6\frac{1}{4}$	21	33.20

*Ship point saws.

No. 65 Atkins Straight Back Hand Saws



Ship Point Pattern

Damaskeen finished silver steel blade; ribbon edge. Has 3 nickel-plated screws and 1 medallion.

Made in regular and ship patterns. Packed 4 in a box.

Lgth. In.	Per Doz.	POINTS		Width at Point Inches	Width at Butt Inches	Wt. Lbs. per Doz.
		Crosscut	Rip			
20	\$47.20	8, 9, 10, 11	.....	$1\frac{5}{8}$	$5\frac{3}{8}$	14
22	47.20	7, 8, 9, 10, 11	7	$1\frac{5}{8}$	$5\frac{7}{8}$	17
24	53.00	7, 8, 9, 10, 11	$5\frac{1}{2}$, 6	$1\frac{3}{4}$	6	20
26	53.00	7, 8, 9, 10, 11	$5\frac{1}{2}$, 6	$2\frac{3}{8}$	7	24
Ship Point						
26	53.00	7, 8, 9, 10, 11	$5\frac{1}{2}$, 6	$1\frac{3}{4}$	$6\frac{1}{4}$	22

No. 2000 Atkins Hand Saws



Genuine silver steel. Straight back; taper ground, polished and etched. Apple handle with perfection hang. Natural finish lacquer and polished. Two polished nickeled screws and one medallion. Made in ship pattern only.

Packed 4 in a box.

Length.....inches	22	26
Per Dozen.....	\$44.15	49.45
Points Cutoff.....	9, 10, 12	7, 8, 9, 10, 12
Points Rip.....	.....	$5\frac{1}{2}$, 6
Width at Points.....inches	$1\frac{1}{2}$	$1\frac{3}{4}$
Width at Butt.....inches	6	$6\frac{1}{4}$
Weight per Dozen.....pounds	24	29

No. 8 Atkins Sheffield Compass Saws



Eighteen-gage flat ground; 8 points to the inch.

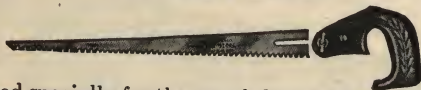
Beech handle, polished and lacquered; 2 polished wood screws.

Filed and set.

Packed 6 in a box.

Length.....	10	12	14	16
Weight, Complete..per dozen	5	6	7	8
Per Dozen.....	\$5.05	5.05	5.05	5.05

No. 9 Atkins Special Interchangeable Compass Saws

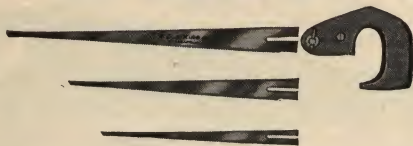


Designed specially for the use of electricians and plumbers. Blade is made from Silver Steel and is extra heavy and stiff. Has carved beech handle with a tightening bolt and wing nut that fits in a hole, so that the blade will not pull out of the handle.

Packed one-half dozen in a box.

Length In.	Wt., Lbs. per Doz.	Saws Complete per Doz.	Blades Only per Doz.
10	5	\$13.90	\$6.85
12	6	14.15	7.05
14	7	14.85	7.75
16	8	15.30	8.35

No. 2 Atkins Nest of Saws



This combination comprises 2 sizes of compass saws and a keyhole blade.

Made of silver steel and has interchangeable handle.

The handle is fastened to the blade with 1 nickeled screw and wing nut.

Weight per dozen sets, 9¾ pounds.

No. 2, Complete.....	per dozen	\$26.00
10-Inch Keyhole Blades.....	per dozen	4.70
12-Inch Compass Blades.....	per dozen	6.45
16-Inch Compass Blades.....	per dozen	7.75
Handles and Screws.....	per dozen	7.05

No. 4 Atkins Plumbers' Nest of Saws



Has three blades; one each keyhole, compass and nail blades. Tempered and ground and correctly toothed.

Nail blade has milled teeth. Beech handle, fully lacquered and polished. One screw and wing nut, nickel-plated.

Packed ¼ dozen in a box.

Description	Per Doz.	Points per In.	Wt., Lbs. per Doz.
No. 4 Complete	\$28.95	..	10¾
10-In. Keyhole Blade	4.70	10	¾
14-In. Nail Blade	9.40	13	2
16-In. Compass Blade	7.75	8	3
Handle and Screws	7.05	..	5

Atkins Special Nail Cutting Blades



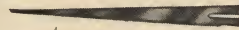
A metal cutting blade made of alloy steel and tempered exceedingly hard for cutting nails, pipe or conduit.

Taper ground from toothed edge to back; clears itself readily. Length, 18 inches. Points per inch, 15.

Weight per dozen, 6 pounds.

Per Dozen..... \$12.95

Atkins Nail Cutting Blades



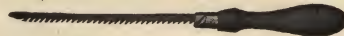
An alloy steel, slotted type blade for use by plumbers and carpenters where metal obstructions such as nails, screws, piping, etc., preclude the use of regular wood saws.

Milled teeth. Length, 14 inches. Points per inch, 13.

Weight per dozen, 2 pounds.

Per Dozen..... \$9.40

No. 95 Disston Keyhole Saw and Pad



Round, hardwood handle, polished, steel ferrule. Blade 10 inches long, ground thin-back, firmly held in place by steel grip inside handle. Length of blade adjustable.

No. 95..... per dozen \$9.10

Extra Blades for No. 95..... per dozen 4.50

No. 16 Atkins Compass Saws



Silver steel blade, tempered and polished, 17x18 gage, 8 point filed and set. Beechwood handle with adjustable pistol grip is attached to blade by stationary pin and nickeled wing nut and bolt. Butt end of grip is notched to give four different angles, three with teeth below handle, one with teeth parallel with top of handle to permit sawing in extra tight corners.

Packed ½ dozen in a box.

Length.....inches	10	12	14	16
No. 16.....per dozen	\$12.00	12.70	13.40	14.15
Weight per Dozen...pounds	5	6	7	8

Disston Orchard Pruning Saws and Shears



This saw and shears are of high grade Disston made steel and can be used with or without pole. Light in construction with curved blade having long, slender teeth to cut on draw stroke. Particularly adapted for sawing the smaller branches in general pruning. Shears will take in branch ¾ inch in diameter.

The saw blade, which is attached to the shears by round-head machine screws can be readily removed when the shear only is required. This style of pruning shear without the saw attachment can be furnished if so desired.

Malleable iron handle and socket, aluminum finish.

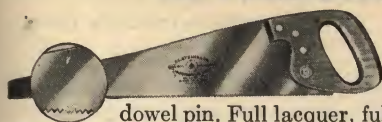
Length of blade, 9½ inches.

Packed 2 in a box. Weight per dozen, 22 pounds.

No. 55, Saw and Shears..... per dozen \$46.50

No. 155, Shears Only..... per dozen 32.70

No. 4 Atkins Pruners



Special steel, extra fine temper. Large grip handle reinforced with dowel pin. Full lacquer, full polish. Three nickel-screws and medallion. Length, 20 inches; 7, 8, 9, 10 points per inch; 1½ inches at point; 5 inches at butt.

No. 4, Weight per Dozen, 18 Pounds.per dozen \$35.20

No. 17 Atkins Forester Pruning Saws

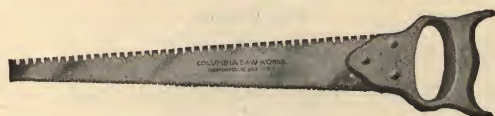


Silver steel. Length of blade 26 inches; width at point 1½ inches; the inch; large peg teeth; cuts large or small limbs readily.

Packed 4 in a box. Weight 16 pounds per dozen.

No. 17.per dozen \$35.55

No. 2 Atkins Duplex Pruning Saws

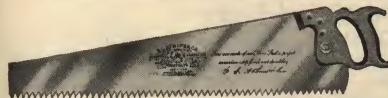


Made of Atkins high grade Sheffield quality steel, specially hardened and tempered. Will require little refiling. Toothing on one edge with tuttle shaped tooth for extra heavy coarse work and with fine tooth on the opposite edge for fine cutting. The handle is of thoroughly seasoned, air-dried applewood, finely finished, varnished edge, easy grip pattern, fastened to the blade with 3 brass screws.

There are 8 points to the inch on one side, tuttle tooth on other side. Packed 4 in a box.

Length.inches	14	16	18	20
Wt., per Dozen.lbs.	8	9	10	11½
No. 2.per doz.	\$16.70	17.40	18.60	20.25

No. 20 Atkins Plaster Saws



For cutting all types of hard wall plaster. Blade is Atkin special steel, tempered hard. Three points to 1 inch. Ground same gauge on toothed edge and back. Filed straight and set.

Length, 28 inches; weight, per dozen, 30 lbs. 6 in a box.

Price, No. 20.per dozen \$34.15

No. 25 Atkins Dovetail Saws



Silver steel blade. Rigid blue spring steel back. Beech handle; lacquered. Nickel plated ferrule. Width under back 1½ inches.

Packed 4 in box. Approximate weight 6 pounds per dozen.

Length.inches	6	8	10	12
No. 25.per dozen	\$21.65	24.35	27.10	29.80
Points per Inch.	15½	15½	15½	15

No. 3 Back Saws



Made of special steel.

Thoroughly seasoned beech handle, lacquered and polished.

Back is blued.

Packed one-third dozen in a box.

Length.in.	8	10	12	14	16	18
Per Dozen.	\$18.85	21.20	24.70	28.25	33.45	39.30
Wt. per Doz. lbs.	11	13	17	20	24	27

No. 2 Atkins Back Saws

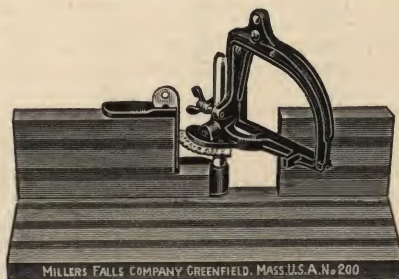


Silver steel, hardened and tempered, flat ground. Polished and etched. Spring steel back keeps blade true; blued. Apple handle full lacquered and full polished; 2 nickeled screws and 1 medallion. Filed and set.

Packed 6 in box.

Length In.	Per Doz.	Points per In.	Under Back In.	Gage	Wt. Lbs. per Doz.
8	\$31.80	14	2½	21	11
10	35.30	14	2½	21	13
12	38.85	14	2½	21	17
14	42.40	14	3¼	21	20
16	49.45	12	3½	20	24
18	55.90	12	3¾	20	27

No. 200 Millers Falls Mitre Boxes



Saw guide is designed so either a back or panel saw may be used.

Saw guide can be adjusted for various angles and heights.

Steel index plate, indexed and marked for 0, 9, 22½, 30, 36, and 45-degree angles.

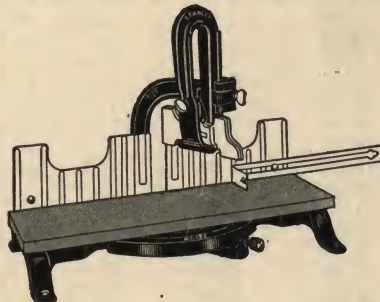
gles, right or left, is fixed to saw guide.

Packed 1 in a wooden box.

Weight, 6 pounds.

No. 200.each \$4.00

No. 150 Stanley Open Front Mitre Boxes



Simple in design; substantially built.

It will take stock up to 4 inches in height and on account of its open front, boards of extra width can be sawed at any angle between 45 and 90 degrees.

Frames and the

swivel can be locked at any angle by means of a set screw.

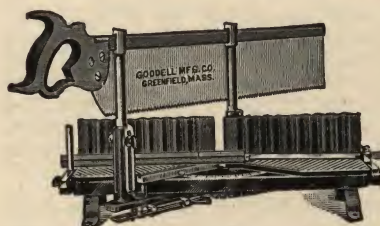
The saw guide can be adjusted for any thickness of saw.

Saw can be adjusted square with the back.

Furnished without saw. Weight, 17 pounds.

Price, No. 150.each \$8.95

Goodell-Pratt All Steel Mitre Boxes



Ball-bearing saw guides and swinging lever. Furnished with back saws and guaranteed only when supplied with saws fitted to boxes at factory.

Capacity right angles, 10½ inches. Capacity mitre, 7¼ inches.

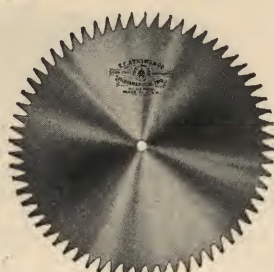
No.	1244A	1264A	1285A	1305A	1306A
Each.	\$28.50	29.00	32.00	34.25	39.00
Dimen. Saw. . . in.	24x4	26x4	28x5	30x5	30x6
Weight.lbs.	30	31	35	37	38

Without extra angle attachment and length gauge, deduct \$1.50 from list.

Atkins Solid Tooth Circular Saws For Wood



Rip



Crosscut

Includes edger, trimmer and slasher saws.
All saws filed and set, ready for use.

Diam. Inches	Each	Extra for Each Gauge Heavier	Beveling New Saws per Gauge	Thick- ness Gauge	Size of Hole Inches
4	\$3.30	\$.07	\$.25	19	1/2
5	3.30	.07	.25	19	1/2
6	3.30	.07	.25	18	3/4
8	4.40	.10	.35	18	7/8
10	5.60	.20	.45	16	1
12	7.00	.30	.55	15	1
14	8.50	.40	.65	14	1 1/8
16	10.50	.50	.75	14	1 1/8
18	12.50	.60	.90	13	1 1/4
20	15.00	.75	1.05	13	1 5/16
22	17.50	.90	1.20	12	1 5/8
24	20.50	1.05	1.35	11	1 3/4
26	24.00	1.25	1.55	11	1 3/4
28	28.00	1.50	1.75	10	1 1/2
30	32.00	1.75	1.95	10	1 1/2
32	36.50	2.00	2.15	10	1 5/8
34	41.00	2.25	2.35	9	1 5/8
36	47.00	2.60	2.55	9	1 5/8
38	54.00	3.00	2.75	9	1 5/8
40	62.00	3.40	2.95	9	2
42	71.00	3.80	3.25	8	2
44	83.00	4.40	3.55	8	2
46	98.00	5.15	3.85	8	2
48	112.00	5.90	4.15	8	2
50	127.00	6.65	4.45	7	2
52	142.00	7.40	4.80	7	2
54	157.00	8.80	5.15	7	2
56	180.00	10.25	5.50	7	2
58	200.00	11.75	5.95	7	2
60	224.00	13.25	6.40	6	2
62	250.00	14.75	6.85	6	2
64	280.00	17.60	7.35	6	2
66	310.00	22.00	7.85	6	2
68	350.00	26.40	8.45	5	2
70	400.00	30.80	9.05	5	2
72	450.00	35.20	9.65	5	2
74	510.00	39.60	10.30	5	2
76	575.00	44.00	11.00	5	2
78	690.00	49.85	11.85	5	2
80	810.00	55.75	12.90	5	2
82	940.00	63.05	14.10	5	2
84	1075.00	70.40	15.40	5	2

All saws under 6 inches in diameter take list of 6-inch saw.

All saws of odd diameter, not listed, take price of next largest size listed. No extra charge for saws one gage thicker than list. No extra charge for saws one to three gages thinner than list; when more than three gages thinner, add 5 per cent to list for each gage. Saws 48 inches and under, and 62 inches and over, in diameter, more than two gages thinner than list not warranted. Saws 50 to 60 inches in diameter thinner than 10 gage not warranted. Saws 42 inches or less in diameter beveled one gage without extra charge. Saws 44 inches or larger are beveled 2 gages without extra charge. Saws hollow or concave ground add for each additional gauge hollow or concave ground double the list for beveling.

If log saws are to be driven by gas engines, please state full particulars as to horsepower, speed and feed.

When ordering specify whether crosscut or rip is wanted.

Atkins Dual Ground Circular Saws

Made of silver-steel, hardened and tempered. Precision Dual Ground assures smoother and faster cutting in ripping, cut-off or mitring work. Cuts smooth enough, at 60-foot board feet, permitting glue joints to be made direct from saw. For fast feed, high speed motor driven machines with a speed of 3600 r.p.m.

Diam. Saw In.	Size Hole In.	Thickness Gage	Diam. Collar In.	Diam. Saw In.	Size Hole In.	Thickness Gage	Diam. Collar In.
5	3/4	14-18-15-14	2 1/2	12	1 1/8	11-15-12-11	5
6	3/4	14-18-15-14	2 1/2	14	1 1/8	10-14-11-10	5
7	3/4	14-18-15-14	2 1/2	16	1 1/8	10-14-11-10	6
8	7/8	13-17-14-13	3 1/4	18	1 1/4	9-13-10-9	8
9	7/8	13-17-14-13	3 1/4	20	1 1/4	9-13-10-9	8
10	1	12-16-13-12	4	24	1 3/8	9-.....10	10

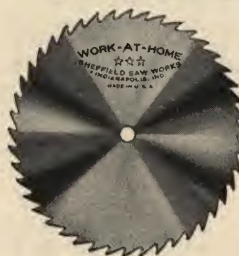
Atkins Work-at-Home Circular Rip Saws

For Wood

Designed for home workshop machines.

Made of Sheffield grade or Atkins Silver Steel.

The 8 and 10-inch saws will be furnished with larger holes than listed at an extra charge of 25 cents each.



Diam. In.	No. S-2, Sheffield Grade	No. A-2, Silver Steel Grade	Gage	Diam. Hole, Inches	No. Teeth
6	\$1.70	\$2.64	18	1/2	50
7	1.80	3.18	18	1/2	40
8	2.00	3.54	18	1/2	44
10	2.40	4.44	16	1/2	36

Atkins High-Speed Silver Steel Laminated Die-Wood Saws

Cup-Wheel Ground



For cutting hard maple plywood or other plywoods used by die makers. Uniformly tempered, of grinding temper to be re-sharpened with emery wheel.

Dual ground with additional cup-wheel grind from edge down 1/4-inch from rim.

Operates best at 3600 rpm. Available in 5 to 10-inch diameters.

Prices upon application.

Atkins Silver Steel Half and Half 44-Tooth Circular Saws

For Wood

Recommended for lumber yards, factories and contractors. A combination saw which eliminates necessity of separate saws for ripping, cross-cutting and mitreing. In ordering give speed of machine.



Diam. Inches	Each	Gage	Diam. Hole Inches
6	\$3.30	18	3/4
8	4.40	18	7/8
10	5.60	16	1
12	7.00	15	1
14	8.50	14	1 1/8
16	10.50	14	1 1/8
18	12.50	13	1 1/4
20	15.00	13	1 5/16
22	17.50	12	1 5/16
24	20.50	11	1 3/8

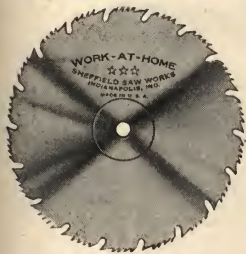
Atkins Work-at-Home Circular Mitre Saws

For Wood

Designed for home workshop machines.

Made of Sheffield grade or Atkins Silver Steel.

The 8 and 10-inch saws will be furnished with larger holes than listed at an extra charge of 25 cents each.



Diam. In.	Grade Each	No. S-37, Sheffield Grade Each	No. A-37, Silver Steel Grade Each	Gage	DIAM. HOLE, INCHES		
6	\$2.10	\$2.64	18	1 1/2	5/8	..	
7	2.20	3.18	17	1 1/2	5/8	..	
8	2.40	3.54	17	1 1/2	5/8	3/4	
10	2.90	4.44	16	1 1/2	5/8	3/4	

Delta Hollow Ground Saw Blades

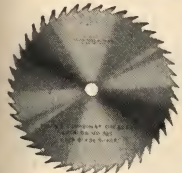


This hollow ground saw blade is ideal for fine and accurate work. The teeth have no set, and the work comes from the saw ready to put together, unless of such fine character that it requires jointing. This blade is intended for fine work only; it is not suitable for rough cutting. Properly used and cared for, it will do the highest grade of work.

No. 326 8-Inch Blade for No. 860 Circular Saw, 5/8-Inch Arbor Hole.....each

No. 1016 10-Inch Blade for Nos. 1160 or 1450 Circular Saws, 5/8-Inch Arbor Hole.....each

Delta Circular Saw Blades



Blades are made of high grade steel, properly tempered. All of the blades listed have 5/8-inch arbor holes.

Combination Rip and Crosscut

This combination saw blade rips and crosscuts equally well; for general work. Teeth are set.

No. 325, 8-Inch for No. 860 Circular Saw.....each

No. 1015, 10-Inch for Nos. 1160 or 1450 Circular Saws.....each

Rip

No. 334, 8-Inch for No. 860 Circular Saw.....each

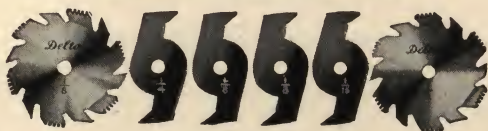
No. 1017, 10-Inch for No. 1160 Circular Saw.....each

Crosscut

No. 335, 8-Inch for No. 860 Circular Saw.....each

No. 1018, 10-Inch for No. 1160 Circular Saw.....each

Delta Dado Heads and Inserts



For cutting grooves varying in width from 1/8 to 1 1/16 inch and up to 1 1/4 inches deep, either with or across grain. Made of hardened, tempered steel.

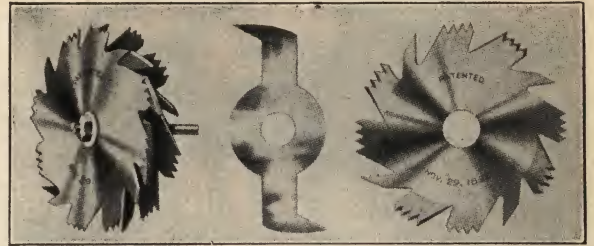
No. 333 6-Inch Dado Head, Consisting of Two Outer Blades 1/8 Inch Thick, Two Inside Cutters 1/8 Inch Thick, One Inside Cutter 1/4 Inch Thick and One 1/16 Inch Thick. Cuts Grooves from 1/8 to 1 1/16 Inch, Advancing by 1/16 Inch. With 5/8-Inch Holes to Fit Nos. 860 and 1160 Circular Saws.....each

No. 874 Table Insert for No. 860 Circular Saw.....each

No. 1161 Table Insert for No. 1160 Circular Saw.....each

No. 1452 Table Insert for No. 1450 Saw.....each

Atkins Groover or Dado Heads



Dado Head

Inside Cutter

Outside Cutter

Made of silver steel. Will cut a perfect groove with or across the grain, and makes an exceedingly smooth even cut. A complete set consists of 2 outside cutters, and as many inside cutters as the width of the groove requires.

Outside cutters are 1/8 inch thick, and will cut a 1/8-inch groove on any size set. The 2 outside cutters together will cut 1/4-inch grooves on any size set.

Inside cutters are 1/16, 1/8 and 1/4 inch thick.

The set will cut any groove from 1/8 inch to maximum width by the steps given in the table following.

Set No.	Max. Width Cut, In.	No. INSIDE CUTTERS			Steps In.
		1/4-In. Wide	1/8-In. Wide	1/16-In. Wide	
1	3/8	..	1	..	1/8
2	5/8	1	1	..	1/8
3	1 1/16	1	2	1	1/16
4	1 1/16	2	2	1	1/16
5	1 1/16	4	2	1	1/16
6	2 1/16	6	2	1	1/16
7	3	11	..	..	1/4
8	4	15	..	..	1/4

No. Set	PER SET DIAMETER, INCHES				
	6	7	8	9	10
1	\$11.50	\$13.15	\$14.85	\$16.50	\$19.00
2	13.85	15.65	17.50	19.35	22.00
3	16.60	18.65	20.85	23.00	26.00
4	18.90	21.15	23.50	25.85	29.00
5	23.60	26.15	28.85	31.50	35.00
6	28.25	31.15	34.15	37.15	41.00
7	37.60	41.15	44.85	48.50	53.00
8	46.90	51.15	55.50	59.85	65.00

No. Set	PER SET DIAMETER, INCHES				
	12	14	16	18	20
1	\$25.15	\$29.65	\$34.50	\$37.15	\$43.85
2	28.65	34.00	39.85	43.15	50.35
3	33.35	39.35	45.65	50.00	58.35
4	36.85	43.65	51.00	56.00	65.85
5	43.85	52.35	61.65	68.00	80.85
6	50.85	61.00	72.35	80.00	95.85
7	64.85	78.35	93.65	104.00	125.85
8	78.85	95.65	115.00	126.65	155.85

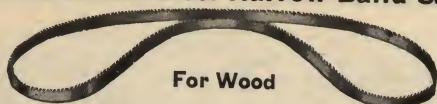
Inside Cutters

Diam. In.	EACH THICKNESS, INCHES			Diam. In.	EACH THICKNESS, INCHES		
	1/16	1/8	1/4		1/16	1/8	1/4
5	\$0.90	\$1.50	\$2.00	11	\$1.85	\$2.50	\$3.15
6	1.10	1.65	2.35	12	2.00	2.65	3.50
7	1.20	1.85	2.50	14	2.35	3.00	4.35
8	1.35	2.00	2.65	16	2.65	3.15	5.35
9	1.50	2.15	2.85	18	3.00	3.85	6.00
10	1.65	2.35	3.00	20	3.50	4.50	7.50

Outside Cutters

Diam. In.	Thickness, Inches	Each	Diam. In.	Thickness, Inches	Each
5	1/8	\$4.15	11	1/8	\$9.60
6	1/8	4.90	12	1/8	11.25
7	1/8	5.65	14	1/8	13.35
8	1/8	6.40	16	1/8	15.70
9	1/8	7.15	18	1/8	17.50
10	1/8	8.35	20	1/8	20.00

Atkins Silver-Steel Narrow Band Saws



For Wood

Width In.	Per Ft.	Brazing per Brace	Std. Ga.	Std. No. Pis. Teeth per In.	Std. No. Pis. Teeth per 100 Ft.	Wt. Lbs. per 100 Ft.
1/8	\$1.13	\$1.50	23	8	7	1.05
1/8	.13	.50	22	7	6	1.05
1/8	.13	.50	24	7	6	1.05
1/8	.13	.50	25	7	6	1.05
1/8	.13	.50	26	7	6	1.05
3/16	.13	.50	22	5	4	1.57
3/16	.13	.50	22	6	5	1.57
3/16	.13	.50	22	7	6	1.57
3/16	.13	.50	24	7	6	1.57
3/16	.13	.50	25	7	6	1.57
3/16	.13	.50	26	7	6	1.57
1/4	.13	.50	21	4	3	2.35
1/4	.13	.50	21	5	4	2.35
1/4	.13	.50	21	6	5	2.35
1/4	.13	.50	22	5	4	2.35
1/4	.13	.50	22	6	5	2.35
1/4	.13	.50	22	7	6	2.35
1/4	.13	.50	24	7	6	2.35
1/4	.13	.50	25	7	6	2.35
1/4	.13	.50	26	7	6	2.35
1/4	.13	.50	28	7	6	2.35
3/8	.14	.50	21	4	3	3.52
3/8	.14	.50	21	5	4	3.52
3/8	.14	.50	22	5	4	3.52
3/8	.14	.50	22	6	5	3.52
3/8	.14	.50	24	7	6	3.52
3/8	.14	.50	25	7	6	3.52
3/8	.14	.50	26	7	6	3.52
3/8	.14	.50	28	7	6	3.52

For saws with beveled backs, advance list 50% for first gage and 10% each additional gage. For band saws with knife edge, use wood band list, deduct 4 cents per ft. for filing and setting, and add 10 cents per ft. to list for beveling.

Delta Band Saw Blades

Made of high grade Swedish steel, accurately set, spaced and jointed, these blades will stand up under hard work. Standard blades for 14-inch band saws are 93 inches long; special blades for use with height attachment are 105 inches long.

Wood Cutting for 14-Inch Band Saws

Standard, 93-Inch

Special, 105-Inch

Shipping weight each, 15 ounces.

Shipping weight each, 18 ounces.

No.	Each	Width In.	Cut Radius In.
1032	1/8	1/4
1033	3/16	1/2
1034	1/4	3/4
1036	3/8	1
1038	1/2	1 1/4
1040	3/4	1 3/4

Metal Cutting for 14-Inch Band Saws

93-Inch

Hard-edge blades for cutting all metals.

Shipping weight each, 1 1/2 pounds.

No.	Each	Width, Inches	Teeth per Inch
1060	\$1.85	1/2	14
1062	1.85	1/2	18
1064	1.85	1/2	24

For No. 785 Saw,
66 Inches Long

Will not fit No. 768, 10-inch band saw.

Shipping weight each, 8 ounces.

No.	Each	Width In.	Cut Radius In.
732	1/8	1/4
733	3/16	1/2
734	1/4	3/4
736	3/8	1
*781	1/4	3/4

*For cutting soft metals.

For 12-Inch Saw,
78 Inches Long

Shipping weight each, 9 ounces.

No.	Each	Width In.	Cut Radius In.
532	1/8	1/4
533	3/16	1/2
534	1/4	3/4
536	3/8	1
*381	1/4	3/4

F.P.M. Coping Saw Frames



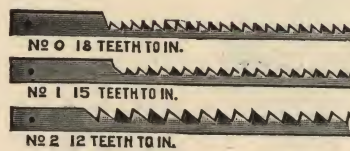
Made of cold drawn steel; especially tempered to insure rigidity. Handle is made of hardwood, coated with a special high gloss lacquer. Trimmings and frame are nickel plated.

Blade operates on a swivel and can be instantly set by simple hand adjustment.

Complete with 1 extra blade, length 6 1/2 inches.

Each..... \$7.50

F.P.M. Coping Saw Blades



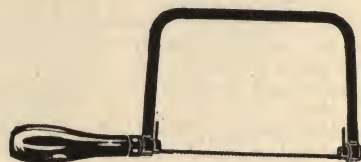
Made of fine band steel. A steel pin, swedged in blade insures rigidity.

Length, 6 1/2 inches.

Put up in sealed packages.

Per 1/2 Dozen... \$2.50

Trojan Tool Steel Coping Saw Frames



Accommodates 6 1/2-inch blades. Made of high carbon tool steel, oil hardened and tempered and guaranteed to hold the blade rigid. Cannot be buckled or bent out of shape.

Handle is made of hardwood, French finish, hand polished. Frame is finished in chromium. Packed 6 in box.

No.	10	18
Each.....	\$1.00	1.25
Depth.....	inches 4 1/2	6 1/2
Weight.....	ounces 8	10

Trojan Coping or Scroll Saw Blades



Fast cutting pin end blade with filed and set teeth, oil hardened and tempered. Width, 3/8 inch; length, 6 1/2 inches.

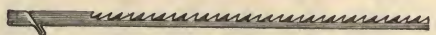
Packed 6 to a sealed envelope package; 24 packages to a gross. Weight per gross, 1 pound.

No. 22P, Medium, 15 Teeth.....per gross \$6.00

No. 33P, Coarse, 10 Teeth.....per gross 6.00

Trojan Coping or Scroll Saw Blades

Lock Loop Ends (Patented)



For sawing wood and all metals. Will fit all standard coping saw frames.

Lock loop is superior to any other method of holding a coping saw in a frame, and adds to the strength of the saw.

Filed and set teeth, oil hardened and tempered.

Packed 6 blades in a sealed envelope package.

Wood Cutting

No.	Description	Width In.	Length In.	No. Teeth	Per Pkg.
2	Coarse, with Deep Teeth.....	3/32	6 1/2	15	\$2.50
3	Medium, with Shallow Teeth.....	1/16	6 1/2	15	.25

Metal Cutting

No.	Description	Width In.	Length In.	No. Teeth	Per Pkg.
5	Fine.....	1/16	6 1/2	20	\$2.50
6	Extra Fine.....	1/16	6 1/2	32	.25

Bailey Smooth Bottom Iron Smooth Planes

Adjustable cutters.
Packed 1 in a box.



No.	Each	Length Inches	Cutter Inches	Weight Pounds
1	\$4.30	5½	1¼	1¼
2	4.40	7	1½	2½
3	4.40	8	1¾	3½
4	4.15	9	2	3¾
4½	5.55	10	2¾	5

Bailey Smooth Bottom Iron Jack Planes

Adjustable cutters.
Packed 1 in a box.



No.....	5	5¼	5½
Each....	\$4.65	4.75	6.50
Lgth.in.	14	11½	15
Cutterin.	2	1¾	2¾
Wt...lb.	5	3¾	6

Bailey Smooth Bottom Iron Fore Planes



Cutter 2¾ in.,
adjustable endwise
and sidewise. Rose-
wood knob. Length
18 in. Wt., 7 lbs.
Packed 1 in box.

No. 6.....each \$7.15

Bailey Smooth Bottom Iron Jointer Planes

Adjustable cutters.
Packed 1 in a box.



No....	7	8
Each	\$8.80	10.20
Lgth.		
...in.	22	24
Cutter		
...in.	2¾	2¾
Wt.lb.	8	9½

Bailey Corrugated Bottom Iron Smooth Planes

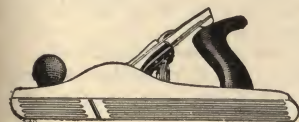
Packed 1 in a box.



No.	Length Inches	Cutter Inches	Wt. Lbs.	Each
2C	7	1½	2½	\$4.60
3C	8	1¾	3½	4.60
4C	9	2	3¾	4.75
4½C	10	2¾	4¾	5.90

Bailey Corrugated Bottom Adjustable Iron Jack Planes

Packed 1 in a box.



No.....	5C	5¼C	5½C
Each....	\$5.25	4.95	6.85
Lgth.in.	14	11½	15
Cut...in.	2	1¾	2¾
Wt...lb.	4¾	3¾	5½

Bailey Corrugated Bottom Iron Fore Planes



Weight, each,
6¾ pounds.

Packed 1
in a box.

Price, No. 6C, 18 Inches Long, 2¾-Inch Cutter. each \$7.45

Bailey Corrugated Bottom Iron Jointer Planes



Packed
1 in a box.

Weight
each, No. 7C,
7¾ lbs.; No.
8C, 9¼ lbs.

No. 7C, 22 Inches Long, 2¾-Inch Cutter.....each \$9.15
No. 8C, 24 Inches Long, 2¾-Inch Cutter.....each 10.60

Stanley Scrub Planes



Will plane down a board or plank to rough dimensions faster and more accurately than can be done with a saw or hatchet. Extra heavy narrow cutter has a rounded cutting edge. Sides and lever japanned. Beech handle and knob. Packed one in a box.

No.	Length Inches	Cutter Inches	Weight Pounds	Each
40	9½	1¼	2½	\$2.50
40½	10½	1½	2½	3.15

No. 700 M-S Block Planes



Bottom a fine grey iron casting. Bottom and sides milled and polished with inside black enameled. Plane iron of good quality steel carefully hardened and tempered. Knob handle hardwood with black lacquer finish. Top half of clamp lever handle red enameled. Nickel-plated clamp screw.

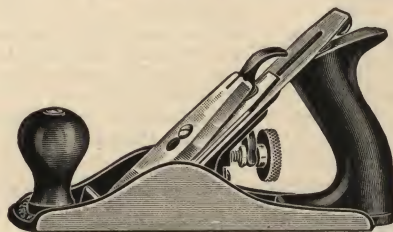
Length 7 inches; cutter 1½ inches.

Weight 1¾ pounds.

Packed one in a box.

No. 700.....each \$.65

No. 900 M-S Smooth Planes



Bottom and frog fine grey iron castings. Bottom and sides milled and polished. Inside black enameled. Plane iron of good quality steel carefully hardened and tempered.

Lever side adjustment of cutter. Screw end adjustment of cutter. Clamp lever handle red. Hardwood handles and knobs with black lacquer finish.

Length 9 inches; cutter 2 inches.

Weight 3½ pounds. Packed one in a box.

No. 900.....each \$1.90

No. 814 M-S Jack Planes



Bottom and frog fine grey iron castings. Bottom and sides milled and polished with inside black enameled. Plane iron of good quality steel, carefully hardened and tempered. Lever side adjustment and screw depth adjustment of cutter. Hardwood handle and knob with black lacquer finish. Clamp lever handle finished in red.

Length 14 inches; cutter 2 inches.

Weight 4¼ pounds. Packed one in a box.

No. 814.....each \$2.20

Bailey Adjustable Block Planes



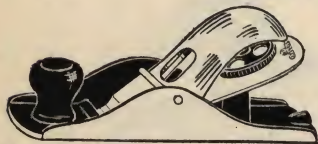
Has improved form of adjustment for adjusting cutters endwise and sidewise. Has adjustable throat. Knuckle joint lever.

Equipped with a steel lever or cap which snaps into position and locks the cutter when replaced.

Packed 1 in a box.

No.	18	19
Each	\$3.15	3.50
Length	6	7
Cutter	1 5/8	1 5/8
Weight	1 1/2	1 5/8

No. 110 Stanley Non-Adjustable Block Planes



Bottom and sides are milled and ground.

Lever cap is nickel plated. Rosewood knob.

Length, 7 inches; cutter, 1 5/8 inches. One in box.

No. 110, Weight, 1 3/8 Pounds. each \$1.15

Stanley Adjustable Block Planes



No. 220

Japanned trimmings. Rosewood knob. Bottom and sides, milled and ground. Has a screw adjustment. Packed 1 in a box.

No.	Each	Length Inches	Cutter Inches	Weight Pounds
203	\$1.80	5 1/2	1 3/8	1
220	1.80	7	1 5/8	1 1/4

No. 65 Stanley Adjustable Block Planes



Fitted with a new and patented form of steel lever or cap which makes it practically indestructible. Nickel trimming. Knuckle joint.

Packed one in a box.

No. 65 7 Inches Long, 1 5/8-inch Cutter. each \$3.50

No. 130 Stanley Double End Block Planes



Is non-adjustable.

Has two slots and two cutter seats.

Length, 8 inches; cutter, 1 5/8 inches. Weight, 1 5/8 pounds.

Packed one in a box.

No. 130. each \$2.00

No. 79 Stanley Side Rabbet Planes



Reversible nose can be worked into corners.

Full nickel-plated. Right and left hand. Length, 5 1/2 in.; width of cutters, 1/2 in.

Packed 1 in a box.

Weight, 1 pound.

No. 79. each \$2.75

No. 12 1/2 Stanley Double Handle Scraper Planes



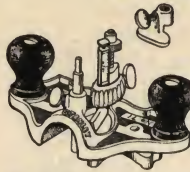
Hardwood bottom can be replaced when worn. Japanned finish; 6 1/4 inches long, 2 1/8-inch blade. Weight 4 pounds.

No. 12 1/2. each \$6.60

Extra Bottoms. each .50

Extra Blades. each .80

Stanley Router Planes



No. 71, Open Throat

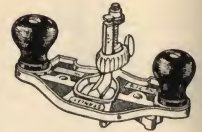
For surfacing bottom of grooves or other depressions parallel with surface of work. Maple knobs finished in black. Nickel plated.

Three cutters are furnished: 1/4 and 1/2-inch router, and a 3-piece V or smoothing cutter. Shank of cutters graduated in 16ths for 1 inch. No. 71 is furnished with attachment for closing the throat, for use on narrow surface.

Packed one in a box.

No. 71, 7 1/2 In. Long. Wt., 2 5/8 Lb. each \$4.25

No. 71 1/2, 7 1/2 In. Long. Wt., 2 1/8 Lb. each 3.80



No. 71 1/2, Closed Throat

No. 151 Stanley Spoke Shaves



Cutter can be adjusted both endwise and sidewise by means of the adjusting screws which engage the slots near the end. Has a raised handle.

Weight, per 1/2 dozen, 4 1/4 pounds. Packed 6 in a box.

Price, No. 151, 10 In. Long, 2 1/8-In. Cutter. per doz. \$10.20

No. 600 Greenlee Razor Blade Draw Knives

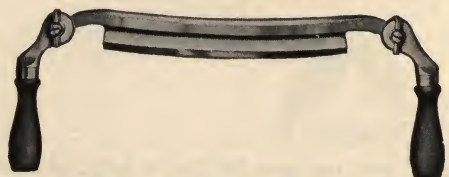


Blade is made from solid steel. Width, 1 3/8 inches. Hardwood handle.

Packed 6 in a box.

Lgth. Blade in.	6	7	8	9	10	12	14
No. 600...doz.	\$13.50	13.50	13.50	14.40	15.60	18.00	21.00

No. 635 Greenlee Folding Handle Draw Knives



Razor blade knife. Joint made by tapered lugs on shank fitting in tapered slots on blade extension, insures rigidity and easy adjustment. Joint is locked with wing nut so that neither wrench nor screw driver is needed to lock or release. When open, handles are held firmly in place and knife has hang of a fixed handle draw knife. Wooden handle reinforced with steel ring. One in a box.

Length.....inches	6	7	8	9	10
Price.....per dozen	\$28.00	28.00	28.00	29.00	30.50

No. 250 Fletcher Wood Scrapers



Consists of a hardwood handle to which double-edge quick change blades are securely held by means of a vise clamp. Tension is supplied by a thumb nut at the end of the handle.

The blade can be shifted to extend beyond edge of handle and can be tilted, making it possible to scrape right up to the base board and other hard-to-get-at places.

Blade will not chatter under pressure.

Equipped with two extra blades, 2 1/2 inches long of finest saw blade steel.

Packed 1/2 dozen in a display carton. Weight per dozen, 6 1/2 pounds.

No. 250, Scraper. each \$7.75

Extra Blades. each .10

No. 25 Hook Scrapers

With Renewable Cutters



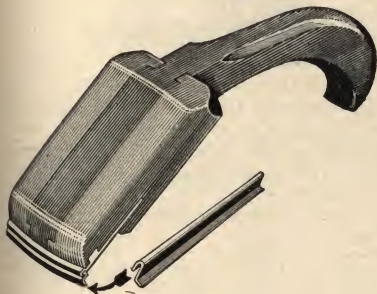
Designed for odd jobs of scraping. Useful tool for painters and woodworkers, also around the house. For refinishing worn spots on floors, brush marks, runs and sags on finished surfaces, for removing raised grain on wood surfaces. Equipped with cutter magazine containing one extra cutter. Packed one dozen and 1/2 dozen in two-color counter display box.

Shipping weight per dozen, 3 pounds, 8 ounces.

No. 25, Complete.....each \$5.50
No. 25, Cutter.....each .15

No. 75 Hook Scrapers

With No. 25 Renewable Cutters



Packed individually in two-color box with counter display; in 1 dozen and 1/2 dozen re-shipping cartons.

Cutters packed in 1/2 dozen and 1 dozen tubes.

Weight per dozen, 9 lb. 14 oz.

No. 75 Scrapers, Complete.....each \$7.75
No. 25 Cutters.....each .15

No. 3425 Hook Scrapers

With Removable Cutters



Especially adapted for scraping floors, boats, boxes, etc. Has a comfortable pistol grip handle and knob. It is double-end reversible with 2 1/2 and 3 1/4-inch cutters. The 2 1/2-inch cutter has a decided curve and is designed for rough and fast scraping. The 3 1/4-inch end is slightly curved and is designed for finishing.

Packed individually in box with counter display. Weight, 1 pound.

Cutters only packed 1/2 or 1 dozen in a tube. Shipping weight, 1 ounce.

No. 3425, Scraper Complete.....each \$1.50
No. 25 Cutter, 2 1/2 Inches Long.....each .15
No. 34 Cutter, 3 1/4 Inches Long.....each .18

Hook Scraper Files



Packed individually in envelopes and repacked in boxes containing 1 dozen.

Weight per dozen, 1 3/4 pounds.

No. 22 Stanley Dowel Sharpeners

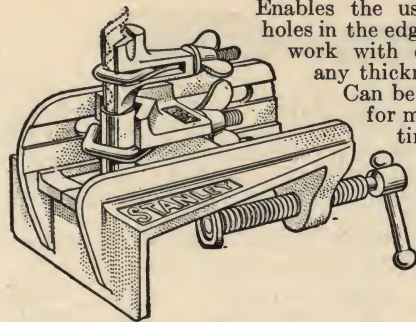


Polished and lacquered. Malleable iron, hardened and tempered.

Packed 1 dozen in a box. Weight per dozen, 1/2 pound.

No. 22.....per dozen \$6.60

Stanley Doweling Jigs

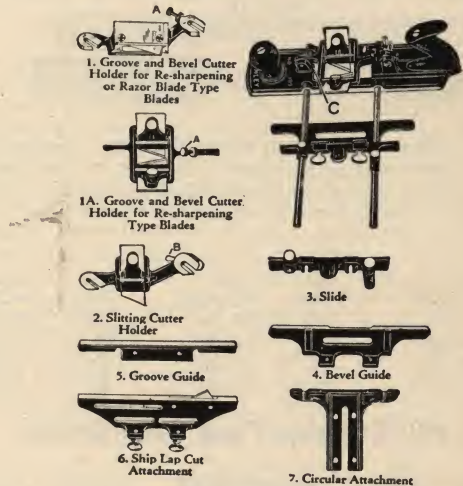


Enables the user to bore dowel holes in the edge, end or surface of work with ease. It will take any thickness up to 3 inches. Can be used as a bit guide for mortising. Made entirely of metal, nickel-plated.

A depth gauge is furnished which can be used with or without the jig. Packed one in a box.

No. 59, with 5 Guides, 1/4 to 1/2 In., Wt., 1 3/8 Lb. each \$3.15
No. 60, with 9 Guides, 1/4 to 3/4 In., Wt., 1 5/8 Lb. each 4.20
Extra Guides.....each .35

Stanley Fibre Board Cutters



No. 193

This tool can be used to slit, bevel, groove and mitre fibre board. Consists of the plane bottom with arms and attachments Nos. 1A, 2, 3, 4 and 5, and one each of the re-sharpening type cutters Nos. 1, 2, 3, 4, 5 and 6.

Weight, 6 pounds.

No. 193.....each \$10.50

No. 193A

This complete tool is equipped with holders necessary to use razor blades, make ship lap cuts, and circular cuts.

Has same parts as No. 193, with the addition of the following: one No. 1 groove and bevel cutter holder; one No. 6 ship lap attachment; one No. 7 circular attachment, and six razor blades.

Weight, 8 pounds.

No. 193A.....each \$13.65

Stanley Fibre Board Knives



Cuts through fibre insulating board with surprising ease. To trim or elaborate on designs made with fibre board cutters; carve linoleum or rubber printing blocks; open cartons; cut paper, cardboard, leather, asbestos or for any work that requires a tool of razor-edge keenness. Furnished with pointed razor edge cutters, but other razor edge cutters can be used.

No. 199 is of cast aluminum. Furnished with 6 blades.

No. 1299 is an iron casting shaped and finished to fit the hand. Furnished with 5 blades.

	199	1299
Each.....	\$1.60	.85
Length.....inches	6	5 1/2
Weight per 1/2 Dozen.....pounds	2 1/8	3 1/4

Extra blades: Package of 5, \$.65; package of 100, \$8.25.

No. 200 Greenlee Socket Butt Chisels



No. 200 Greenlee Socket Butt Chisel has a beveled edge and leather tipped handle. Blade is $2\frac{3}{4}$ inches long from cutting edge to the shoulder. Handle is full formed and both handle and socket are short and in keeping with the blade. Blade, socket and handle, including leather tip are fully polished.

This tool is light in weight, convenient and of high quality. Extra for bevel edge.

Size Inches	Per Dozen	Size Inches	Per Dozen	Size Inches	Per Dozen
$\frac{1}{8}$	\$14.00	$\frac{5}{8}$	\$15.50	$1\frac{1}{4}$	\$20.50
$\frac{1}{4}$	14.00	$\frac{3}{4}$	16.00	$1\frac{1}{2}$	22.00
$\frac{3}{8}$	14.00	$\frac{7}{8}$	18.00	$1\frac{3}{4}$	24.00
$\frac{1}{2}$	14.00	1	18.50	2	25.00

No. 220 Greenlee Short Socket Firmer Chisels



Beveled edges and leather tipped handles. Blades $4\frac{1}{2}$ inches in length and are thinner than the regular firmer chisel, filling the demand for tools lighter in weight. They are shorter in length than the regular firmer chisel and yet longer than a butt chisel. Extra for beveled edges. Packed six in a box.

Size Inches	Price per Dozen	Size Inches	Price per Dozen	Size Inches	Price per Dozen
$\frac{1}{8}$	\$14.00	$\frac{5}{8}$	\$15.50	$1\frac{1}{4}$	\$20.50
$\frac{1}{4}$	14.00	$\frac{3}{4}$	16.00	$1\frac{1}{2}$	22.00
$\frac{3}{8}$	14.00	$\frac{7}{8}$	18.00	$1\frac{3}{4}$	24.00
$\frac{1}{2}$	14.00	1	18.50	2	25.00

No. 400 Greenlee Tang Butt Chisels



Beveled edges and leather tipped handles.

The blade of this chisel measures 3 inches from cutting edge to shoulder. Length from cutting edge to bolster, 5 inches. Tang is of strong, stocky formation.

Extra for beveled edge.

Packed six in a box.

Size Inches	Price per Dozen	Size Inches	Price per Dozen	Size Inches	Price per Dozen
$\frac{1}{8}$	\$6.40	$\frac{5}{8}$	\$6.70	$1\frac{1}{4}$	\$9.50
$\frac{1}{4}$	6.40	$\frac{3}{4}$	7.10	$1\frac{1}{2}$	11.00
$\frac{3}{8}$	6.40	$\frac{7}{8}$	7.60	$1\frac{3}{4}$	12.75
$\frac{1}{2}$	6.40	1	8.20	2	15.00

No. 430 Greenlee Tang Firmer Chisels



Beveled edges and leather tipped handles. Length from cutting edge to shoulder, $4\frac{1}{2}$ inches, to bolster, $6\frac{1}{2}$ inches. The tangs are substantial and well formed. The bolsters are of ample dimension to support handles and to give proper appearance. Blades, necks and bolsters are fully polished. Hardwood handles with leather tips are fitted with heavy brass ferrules to prevent splitting and to give added strength. Extra for beveled edges.

Packed six in a box.

Size Inches	Price per Dozen	Size Inches	Price per Dozen	Size Inches	Price per Dozen
$\frac{1}{8}$	\$6.40	$\frac{5}{8}$	\$6.70	$1\frac{1}{4}$	\$9.50
$\frac{1}{4}$	6.40	$\frac{3}{4}$	7.10	$1\frac{1}{2}$	11.00
$\frac{3}{8}$	6.40	$\frac{7}{8}$	7.60	$1\frac{3}{4}$	12.75
$\frac{1}{2}$	6.40	1	8.20	2	15.00

No. 60 Stanley Tang Butt Chisels



Handle made of Stanloid, a tough non-metallic substance. Blade and tang forged from one piece of fine chisel steel. Upper portion of handle is transparent amber; lower portion is opaque black. Blades have a polished high color mirror finish. Thin blades 3 inches long. Two long forged ears on the tang lock the handle against turning and eliminate loose handles.

Packed 6 in a box.

Width Blade...in.	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Each.....	\$1.60	1.60	1.60	1.70	1.70	1.80	2.00	2.25
Length over All								
.....in.	$7\frac{7}{8}$	$7\frac{7}{8}$	$7\frac{7}{8}$	$8\frac{1}{4}$	$8\frac{1}{4}$	$8\frac{3}{8}$	$8\frac{1}{2}$	9
Wt. per $\frac{1}{2}$ Doz.								
.....lbs.	$1\frac{3}{8}$	$1\frac{1}{2}$	$1\frac{3}{4}$	$1\frac{7}{8}$	2	$2\frac{1}{4}$	3	$3\frac{3}{8}$

Extra for honing, 25 cents per dozen.

No. 61 Stanley Paring Chisels
Swedish Pattern

For carving, paring and similar work.

Blade and tang are forged from one piece of the finest chisel steel, carefully heat treated to hold a keen, durable cutting edge and accurately machine crossground.

Handle is made of Stanloid, the toughest non-metallic substance known. Upper portion of handle is transparent amber, lower portion is opaque black. Polished blade.

Length of blade, $2\frac{1}{2}$ inches. Packed 1 in a box.

Blade Width Inches	Each	Overall Length Inches	Weight Pounds per 6	Blade Width Inches	Each	Overall Length Inches	Weight Pounds per 6
$\frac{1}{4}$	\$1.50	$7\frac{3}{8}$	$1\frac{1}{8}$	$\frac{3}{4}$	\$1.70	$7\frac{3}{4}$	$1\frac{5}{8}$
$\frac{3}{8}$	1.50	$7\frac{1}{2}$	$1\frac{1}{4}$	1	1.90	8	$1\frac{7}{8}$
$\frac{1}{2}$	1.50	$7\frac{5}{8}$	$1\frac{3}{8}$	$1\frac{1}{4}$	2.20	$8\frac{1}{4}$	$2\frac{1}{2}$
$\frac{5}{8}$	1.60	$7\frac{3}{4}$	$1\frac{1}{2}$	$1\frac{1}{2}$	2.80	$8\frac{3}{8}$	$2\frac{3}{4}$

No. 1030 Shark Brand Swedish Butt
Tanged Chisels
With Bevelled Back

This chisel is made from the finest grade of Swedish tool steel, carefully heat-treated and tempered. The blade is thin and properly designed for balance. Beveled edge, full crocus finish, spotted birch wood handle with steel ring; brass ferrule.

Length of blade, $2\frac{1}{2}$ inches. Packed 6 in a box.

Size Inches	Per Dozen	Size Inches	Per Dozen
$\frac{1}{8}$	\$12.60	$\frac{7}{8}$	\$16.20
$\frac{1}{4}$	12.60	1	16.80
$\frac{3}{8}$	13.80	$1\frac{1}{4}$	19.20
$\frac{1}{2}$	14.40	$1\frac{1}{2}$	22.20
$\frac{5}{8}$	15.00	$1\frac{3}{4}$	27.00
$\frac{3}{4}$	15.60	2	33.60

No. 530 Greenlee Tang Firmer Gouges
Outside Bevel—Leather Tip

Has outside bevels, 3-ply leather-tipped handles of hardwood and tenons are supported by heavy brass ferrules. Blades, necks and handles are fully polished.

Length of blade, $4\frac{1}{2}$ inches, measuring from cutting edge to shoulder. Over all dimension varies from $10\frac{1}{2}$ inches on the smaller sizes to 13 inches on the larger.

Size Inches	Per Dozen	Size Inches	Per Dozen	Size Inches	Per Dozen
$\frac{1}{8}$	\$7.70	$\frac{5}{8}$	\$8.10	$1\frac{1}{4}$	\$11.75
$\frac{1}{4}$	7.70	$\frac{3}{4}$	8.60	$1\frac{1}{2}$	13.75
$\frac{3}{8}$	7.70	$\frac{7}{8}$	9.30	$1\frac{3}{4}$	16.00
$\frac{1}{2}$	7.70	1	10.00	2	19.00

No. 596 Greenlee Parting Tools



Blade about 7 inches long, thin at edges, with heavy section down center. Maple handles turned and polished, and fitted with a brass ferrule. Packed six in a box.

Size.....inches	1/2	5/8	3/4
Price, No. 596.....per dozen	\$8.75	9.25	9.75

For tools without handles, deduct \$2.75 from list.

No. 577 Hargrave All Steel Wood Chisels



For all classes of work. Packed 6 in a box.

Cutting Edge, In.	Diam. Steel, In.	Lgth. Inches	Wt., Lbs. per Doz.	Price per Doz.
1/2	1/2	10	5 1/4	\$11.00
3/4	5/8	12	10	13.00
1	5/8	12	10 3/4	15.00
1 1/4	3/4	12	15	17.00

No. 950 Hargrave Floor Chisels



This chisel has thin blade, enabling the carpenter, plumber or electrician to cut the tongue off and lift the floor boards without marring the surface.

Packed 1/2 dozen in a box.

Width Blade,.....inches	2 1/2	3
No. 950.....per dozen	\$18.00	21.00
Length.....inches	11	12
Stock.....inches	5/8	5/8
Weight, Lbs.....per dozen	12	15

No. 109 Millers Falls Carving Tool Sets



A de luxe set of nine fine chisels packed in a substantial lock corner box with hinged cover that serves as a permanent container.

The blades, hammer forged from the finest tool steel, are 8 inches long and are fitted with a forged bolster that protects the handle when a mallet is used.

The blades are polished and the cutting edges carefully honed.

Set consists of a 1/2 and 1/4-inch straight chisel, a 1/16, 1/2 and 1/4-inch gouge, a 1/4-inch curved gouge, a 1/4-inch skew chisel, a 3/8-inch bent chisel and a 1/4-inch V tool.

The handles, protected with nicked ferrules, are natural lacquered maple.

Length of tools, 8 inches.

Packed 1 set in a box.

Weight per set, 2 3/4 pounds.

No. 109.....per set	\$8.00
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No. 476 Greenlee Turning Chisels



Fitted with polished hardwood handle 8 inches long. Blade measures 8 inches long on sizes 1 inch and wider. Those smaller than 1-inch are slightly shorter.

List below covers chisels with handles.

On special order, round point, spear point, square point, right skew or left skew, can be furnished. Chisels with special points list at \$1.00 per dozen advance over regular price.

Packed six in a box.

If desired without handles deduct \$2.75 per dozen.

Size Inches	Price per Dozen	Size Inches	Price per Dozen	Size Inches	Price per Dozen
1/8	\$8.75	5/8	\$9.25	1 1/4	\$13.50
1/4	8.75	3/4	9.75	1 1/2	16.00
3/8	8.75	7/8	10.50	1 3/4	18.75
1/2	8.75	1	11.75	2	21.25

No. 576 Greenlee Turning Gouges



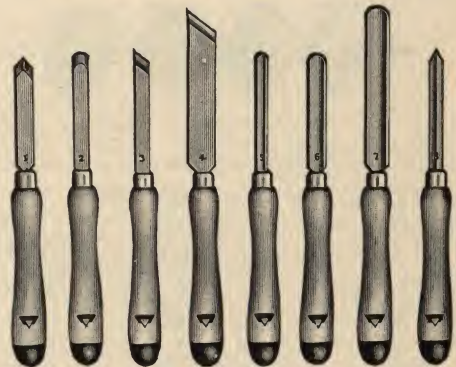
Handles of hardwood, 8 inches long and fitted with heavy ferrules. Blade 8 inches long on gouges 1 inch or larger. On smaller sizes the blade length is slightly reduced, varying according to size. The length for the smaller sizes is about 7 inches. Service required of a turning gouge is often severe and to provide proper strength the blade is made with a substantial cross section. Tempered with extreme care and highly polished.

Packed six in a box.

If desired without handles deduct \$2.75 per dozen.

Size Inches	Price per Dozen	Size Inches	Price per Dozen	Size Inches	Price per Dozen
1/8	\$10.25	5/8	\$10.75	1 1/4	\$17.25
1/4	10.25	3/4	12.00	1 1/2	21.25
3/8	10.25	7/8	13.25	1 3/4	24.50
1/2	10.25	1	14.25	2	29.00

Millers Falls Turning Tools



A full size, heavy tool. The blade is forged from a fine quality of tool steel. The heavy tang is solidly seated in the long, smooth, finely finished handle that can be used for hours without undue fatigue and allows two-hand control.

Blade individually heat-treated to take and hold a keen edge. The edge is ground and honed ready for use and the remainder of the blade is polished.

Handle is hardwood with a clear lacquer finish, green lacquered tip. Length of blade, 4 3/4 in. Length over all, 13 in. Packed 6 in a box or one set in a box.

No.	Description	Each
1	1/2-Inch Spear Point.....	\$.70
2	1/2-Inch Round Nose Chisel.....	.70
3	1/2-Inch Skew Chisel.....	.70
*4	1-Inch Skew Chisel.....	.90
5	1/4-Inch Gouge.....	.70
6	1/2-Inch Gouge.....	.70
*7	3/4-Inch Gouge.....	.90
8	1/2-Inch Parting Tool.....	.75
1188	Set Consisting of One Each of Nos. 1 to 8.....	6.05

*Length of blade, 6 inches; length over all, 14 1/4 inches.

No. 100 Russell Jennings' Extension Lip Auger Bits



Made from special analysis tool steel, carefully hardened and tempered. Has proper clearance.

Sizes $\frac{1}{16}$ and under packed 12 in box; over $\frac{1}{16}$, 6 in box.

Size in 16ths Inch	Price per Dozen	Size in 16ths Inch	Price per Dozen	Size in 16ths Inch	Price per Dozen	Size in 16ths Inch	Price per Dozen
3	\$12.00	11	\$14.00	19	\$28.00	27	\$48.00
4	10.00	12	14.00	20	28.00	28	48.00
5	10.00	13	16.50	21	32.00	29	54.00
6	10.00	14	16.50	22	32.00	30	54.00
7	10.00	15	19.00	23	36.00	31	60.00
8	10.00	16	19.00	24	36.00	32	60.00
9	12.00	17	24.00	25	42.00	..	.....
10	12.00	18	24.00	26	42.00	..	.....

Russell Jennings Standard Bit Sets

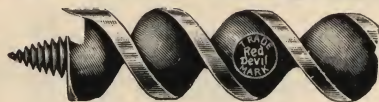


Set of 32 $\frac{1}{2}$ quarters. Set packed in three-section hardwood box unless otherwise specified. Consists of 13 bits: 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, and 16 sixteenths.

Canvas roll especially designed for set will be furnished in place of box, if desired.

In Wooden Box.....per set \$17.00
In Canvas Roll.....per set 16.35

No. 2400 Red Devil Auger Bits



Rapid boring, with or against the grain in any wood. Single score and single lip reduce friction and clears easier. Well tempered steel. Full polished with red enameled tip.

Sizes in 16ths	Wt. in Lb.	Sizes in 16ths	Wt. in Lb.	Sizes in 16ths	Wt. in Lb.
In. Each	No. in Box	In. Each	No. in Box	In. Each	No. in Box
3	6	5	6	17	4
4	6	1	11	.85	6
5	6	1 1/4	12	.90	6
6	6	1 3/8	13	1.00	6
7	6	1 3/4	14	1.05	6
8	6	2	15	1.10	6
9	6	2 3/8	16	1.15	6

No. 22 Solid Center Auger Bits



A tool combining greatest strength with desirable qualities of free easy cutting and excellent chip clearance. The feature of this auger bit is the solid stem extending straight through the center from the screw point to the shank.

The solid center or stem makes a stiff, strong tool and provides great support for the base of the screw point.

Size in 16ths Inches	Price per Dozen	Size in 16ths Inches	Price per Dozen	Size in 16ths Inches	Price per Dozen	Size in 16ths Inches	Price per Dozen
3	\$4.50	9	\$5.50	15	\$9.00	21	\$13.50
4	4.00	10	6.00	16	9.00	22	13.50
5	4.00	11	7.00	17	10.50	23	15.00
6	4.00	12	7.00	18	10.50	24	15.00
7	4.50	13	8.00	19	12.00	28	19.00
8	5.00	14	8.00	20	12.00	32	23.00

No. 64 Greenlee Ship Auger Car Bits



No. 64 Car Bit is full polished. It is also furnished with jappanned hollows; when this is wanted, specify No. 64-J.

Made with 12-inch twist and measures about 17 inches over all. It is recommended for its strength, rigidity, easy cutting and free clearance.

Size by 16ths Inches	Price per Dozen	Size by 16ths Inches	Price per Dozen	Size by 16ths Inches	Price per Dozen
4	\$11.00	12	\$12.00	20	\$18.00
5	11.00	13	13.00	21	20.00
6	11.00	14	13.00	22	20.00
7	11.00	15	14.50	24	23.00
8	11.00	16	14.50	26	27.00
9	11.00	17	16.00	28	32.00
10	11.00	18	16.00	30	33.00
11	12.00	19	18.00	32	45.00

No. 88 Greenlee Nut Augers



Double twist pattern. Flat cut head. Medium coarse screw point. Sizes 1- $\frac{1}{2}$ inches and smaller have full polished twist; larger sizes have the hollow of the twist jappanned.

Regularly made with 6-inch twist on the smaller sizes increasing to a length of 9 $\frac{1}{2}$ inches on the 3 $\frac{1}{2}$ -inch size. In the same way, the overall length varies from 14 to 20 inches.

Packed $\frac{1}{2}$ dozen in a box, sizes 1 $\frac{1}{2}$ -inch and smaller; 1 $\frac{3}{4}$ and 2-inch, $\frac{1}{4}$ dozen in a box; larger sizes $\frac{1}{2}$ dozen in a box.

Size Inches	Per Dozen	Size Inches	Per Dozen	Size Inches	Per Dozen	Size Inches	Per Dozen
3/8	\$10.00	1	\$15.00	1 3/4	\$28.00	3	\$92.00
1/2	10.00	1 1/8	17.00	2	32.00	3 1/2	152.00
5/8	10.00	1 1/4	19.00	2 1/4	42.00	4	212.00
3/4	11.00	1 3/8	21.00	2 1/2	52.00	..	.....
7/8	13.00	1 1/2	24.00	2 3/4	72.00	..	.....

No. 109A Standard Wood Boring Brace Bits Carbon Steel



Size of shank, $\frac{3}{16} \times \frac{3}{8} \times 1 \frac{1}{4}$ inches long.

Specially tempered and pointed for wood, but are not injured by contact with nails, plaster, etc.

Diam. In.	Per Doz.	Lgth. Over All In.	Diam. In.	Per Doz.	Lgth. Over All In.
1/16	\$3.25	3 1/2	13/32	\$7.50	8 1/4
3/32	3.25	4	7/16	8.00	8 1/2
1/8	3.25	4 1/2	15/32	8.75	8 3/4
5/32	3.50	5	1/2	9.50	9
3/16	4.00	5 1/2	9/16	11.00	9 1/2
7/32	4.50	6	5/8	12.50	9 1/2
1/4	5.00	6 1/2	11/16	14.50	10
9/32	5.50	7	3/4	16.50	10
5/16	6.00	7 1/2	7/8	21.00	10
11/32	6.50	7 3/4	1	27.00	10
3/8	7.00	8	..	..	..

No. 109B Standard Wood Boring Brace Drills

Extra Length for Bell Hangers' and Electricians' Bits

Carbon Steel



Size of shank, $\frac{3}{16} \times \frac{3}{8} \times 1 \frac{1}{4}$ inches long.

Diameter Inches	PER DOZEN LENGTH, INCHES			Diameter Inches	PER DOZEN LENGTH, INCHES		
	12	18	24		12	18	24
3/16	\$7.50	\$10.00	\$12.50	1/2	\$12.00	\$14.50	\$17.00
1/4	8.00	10.50	13.00	9/16	13.50	16.00	18.50
5/16	8.75	11.00	13.50	5/8	15.25	17.75	20.25
3/8	9.50	12.00	14.50	3/4	19.00	21.50	24.00
7/16	10.50	13.00	15.50	..	..	..	..

Sizes $\frac{3}{16}$ to $\frac{7}{16}$ inch put up 1 dozen of a size in a box.

Sizes $\frac{1}{2}$ to $\frac{3}{4}$ inch put up 6 of a size in a box.

No. 41 Yankee Automatic Drills



This drill is intended for boring holes in wood for various purposes, as setting screws, brads, nails, etc. It can be used in many places where a gimlet, brad awl or brace cannot be used.

Drill point revolves in both directions. The backward turn on the upstroke of handle serves to free the chips. Points cannot be turned or pulled out of chuck in use. Eight sizes of drill points are furnished, $\frac{1}{16}$ to $\frac{1}{4}$ inch. They come into plain sight when magazine in handle is opened.

Made of steel and brass; chrome-plated and polished.

Entire length of drill, including drill point, $11\frac{1}{4}$ inches.

Packed one in box. Net weight per dozen, 8 pounds, 4 ounces.

No. 41.....per dozen \$44.50

No. 44 Yankee Automatic Drills



Holes can be bored in either soft or hard wood without splitting.

Has adjustable tension on spring, changed by turning cap of tool. Allows light pressure on fine drills to prevent bending and give clean cutting on soft woods, also strong pressure on hard woods or with coarse drills for fast cutting. Drills revolve both ways.

Eight drill points are furnished in handle in magazine, sizes $\frac{1}{16}$ to $\frac{1}{4}$ inch.

Entire length, inclusive of drill point, $11\frac{1}{4}$ inches.

This tool is made of steel and brass, chrome-plated and buffed.

Packed 1 in a box. Net weight per dozen, 9 pounds.

No. 44.....per dozen \$56.00

No. 188A Goodell-Pratt Automatic Drills



This tool drills eight different size holes quickly and with surprising ease, in hard and soft wood, soft metals, wall board, plaster, etc. The eight drill points are contained in the numbered compartments in the magazine handle which is made of polished jet black molded bakelite. Drills are removed through a hole in the rotating cap.

Exposed parts are polished and nickel-plated. The spiral driving mechanism is practically indestructible with proper lubrication.

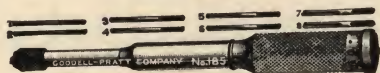
Eight fluted shank drill points, $\frac{1}{16}$ to $\frac{1}{4}$ inch in diameter are furnished with each tool. Length, $9\frac{5}{8}$ inches.

Packed 1 in carton; shipping weight, 8 ounces.

No. 188A.....each \$1.90

No. 185 Automatic Drills

Mr. Punch



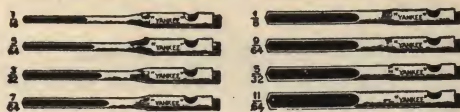
Patented magazine handle holds 8 fluted drill points, $\frac{1}{16}$ to $\frac{1}{4}$ inch in diameter, each in a separate numbered compartment, from which they are released one at a time through hole in rotating cap. Drill point gage shows exact size of each drill point.

Chuck has 2 hardened steel jaws for holding fluted shank drill points securely. All exposed metal parts are polished, nickel-plated, and buffed. Center nut, which is most important part of any spiral-driven tool, is made of a very hard grade of brass and will give lasting service. Front portion of tool is made of hollow brass tubes.

Tool is 10 inches long and weighs 8 ounces.

No. 185.....each \$2.30

Yankee Drill Points

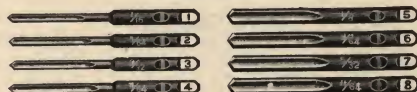


Extra points furnished with drills. Sizes, $\frac{1}{16}$, $\frac{5}{64}$, $\frac{3}{32}$, $\frac{7}{64}$, $\frac{1}{8}$, $\frac{9}{64}$, $\frac{5}{32}$, and $\frac{1}{4}$ inch.

Price.....per set \$1.00

Millers Falls Automatic Drill Points

New Style

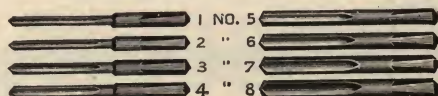


Fits all automatic drills; packed 1 set or dozen in box.

Per Set of 8.....\$.80

Per Dozen.....1.10

Old Style (Fluted Shanks)



Fits all types of Goodell Pratt automatic drills.

Per Set of 8.....\$.80

Per Dozen.....1.10

Millers Falls Chucks and Drills for Spiral Ratchet Screwdrivers

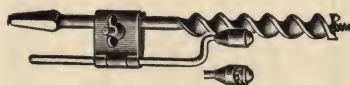


Converts spiral ratchet screwdrivers into automatic drills for boring small holes. Drills can be changed without removing chuck from screw driver. Has improved ball chuck. Operates same as when driving screws.

Packed in wooden box.

No.	For Use with Screwdrivers, Nos.	Quantity	DRILLS In.	Wt. Oz.	Price Each
6700	67 and 670	3	$\frac{1}{16}$ - $\frac{3}{32}$	2	\$.55
6100	61 " 610	8	$\frac{1}{16}$ - $\frac{1}{8}$	3	1.00
6200	62 " 620	8	$\frac{1}{16}$ - $\frac{1}{4}$	4	1.00

No. 2 Millers Falls Bit Gauges



Clamps to shank of any size auger bit, and tightens on bit and gauge spindle at the same time.

Contact ball revolves on ball bearings reducing friction.

Weight, per $\frac{1}{2}$ dozen, $\frac{3}{4}$ pound. Packed 6 in box.

Price, No. 2.....each \$.70

No. 2150 Yankee Bit Extensions



The chuck is so constructed that it will accommodate a large range of square shanks and hold them securely. Square shank is held firmly by the socket.

A Yankee feature prevents jamming of the bit in the socket. The taper end of the shank is accurately machined. Bits will not loosen and come out while in use.

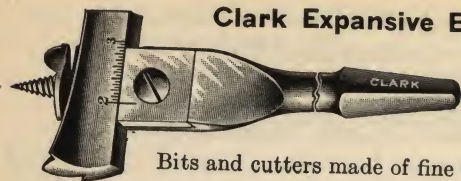
Chrome-plated throughout with high polish on sleeve.

Made to follow $\frac{1}{16}$ -inch bit or larger.

Packed one in a box.

Size.....inches	15	18	21	24
No. 2150.....each	\$3.24	3.34	3.44	3.54
Net Weight.....pounds	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{1}{2}$

Clark Expansive Bits



Bits and cutters made of fine tool steel.

No.	Has Cutters Nos.	Bores Inches	Per Doz.
1	3 and 4	$\frac{7}{8}$ to 3	\$26.00
2	1 and 2	$\frac{1}{2}$ to $1\frac{1}{2}$	18.00

Extra Cutters

Cutter No.	Bores Inches	Per Doz.	Cutter No.	Bores Inches	Per Doz.
1	$\frac{1}{2}$ to $\frac{7}{8}$	\$3.00	5	3 to 4	\$9.00
2	$\frac{7}{8}$ to $1\frac{1}{2}$	3.75	6	4 to 5	12.00
3	$\frac{7}{8}$ to $1\frac{3}{4}$	5.25	7	5 to 6	15.00
4	$1\frac{3}{4}$ to 3	6.00			

Wright's Patent Expansive Bits



No.	Cutter Nos.	Bores Inches	Wt., Lbs. per Dozen	Price per Dozen
10	3 and 4	$\frac{7}{8}$ to 3	9	\$26.00
20	1 " 2	$\frac{5}{8}$ " $1\frac{3}{4}$	5	22.00

Extra Cutters

Cutter No.	Bores Inches	Price per Dozen	Cutter No.	Bores Inches	Price per Dozen
1	$\frac{5}{8}$ to $1\frac{1}{8}$	\$3.00	4	$1\frac{3}{4}$ to 3	\$6.00
2	$1\frac{1}{8}$ " $1\frac{3}{4}$	3.75	5	3 " 4	9.00
3	$\frac{7}{8}$ " $1\frac{3}{4}$	5.25	6	4 " 5	12.00

Cap with Adjusting Screw

Price.....per dozen \$6.00

No. 169 Greenlee Machine Center Bits



Center bits are primarily intended for boring shallow holes of large diameter in light stock. They are always fitted with brad points

unless otherwise specified. Brad points are preferable as this bit feeds into the wood very easily.

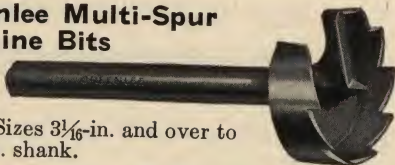
Size $\frac{3}{4}$ inch to 3 inches carried in stock with $\frac{1}{2} \times 2\frac{1}{4}$ -inch shank. Other sizes special.

Size In.	Each	Size In.	Each	Size In.	Each	Size In.	Each
$\frac{1}{2}$	.....	$1\frac{1}{4}$	\$1.95	$2\frac{1}{2}$	\$3.70	4	\$6.40
$\frac{5}{8}$	.....	$1\frac{1}{2}$	2.30	$2\frac{3}{4}$	4.05	$4\frac{1}{2}$	7.70
$\frac{3}{4}$	\$1.10	$1\frac{3}{4}$	2.65	3	4.40	5	9.00
$\frac{7}{8}$	1.35	2	3.00	$3\frac{1}{4}$	4.90	.....	.....
1	1.60	$2\frac{1}{4}$	3.35	$3\frac{1}{2}$	5.40	.....	.....

*Prices on application.

No. 149 Greenlee Multi-Spur Machine Bits

Sizes $\frac{3}{8}$ to 3 in. $\frac{1}{2}$ -in. shank, length over all from $5\frac{1}{2}$ to $5\frac{3}{4}$ -in. in stock. Sizes $3\frac{1}{16}$ -in. and over to order with any diam. shank.



Size In.	Each	Wt. Oz. Each	Size In.	Each	Wt. Oz. Each	Size In.	Each	Wt. Oz. Each
$\frac{3}{8}$	\$1.20	2.5	$1\frac{1}{16}$	\$2.00	5.5	2	\$4.05	7.5
$\frac{7}{16}$	1.20	3.02	$1\frac{1}{8}$	2.00	5.5	$2\frac{1}{8}$	5.00	8.02
$\frac{1}{2}$	1.25	3.02	$1\frac{3}{16}$	2.15	5.5	$2\frac{1}{4}$	6.00	11.02
$\frac{9}{16}$	1.35	3.5	$1\frac{1}{4}$	2.40	5.5	$2\frac{3}{8}$	7.00	12.02
$\frac{5}{8}$	1.35	4.02	$1\frac{5}{16}$	2.40	5.5	$2\frac{1}{2}$	8.00	12.02
$1\frac{1}{16}$	1.40	4.02	$1\frac{3}{8}$	2.55	5.5	$2\frac{5}{8}$	9.00	13.02
$\frac{3}{4}$	1.50	4.02	$1\frac{7}{16}$	2.85	6.02	$2\frac{3}{4}$	10.00	14.02
$1\frac{1}{8}$	1.60	4.02	$1\frac{1}{2}$	3.20	6.02	$2\frac{7}{8}$	11.00	14.5
$\frac{7}{8}$	1.60	4.5	$1\frac{5}{8}$	3.30	6.5	3	12.00	15.02
$1\frac{5}{16}$	1.90	4.5	$1\frac{3}{4}$	3.55	6.5	.....	.....	.....
1	1.90	5.02	$1\frac{7}{8}$	3.80	7.5	.....	.....	.....

No. 109 Standard Straight Shank Drills
Carbon Steel—For Wood

Specially tempered and pointed for wood. Has parallel shank for use in chuck.

Diameter Inches	Per Dozen	Length Over All Inches	Diameter Inches	Per Dozen	Length Over All Inches
$\frac{1}{16}$	\$1.60	$2\frac{1}{2}$	$\frac{3}{8}$	\$6.00	5
$\frac{3}{32}$	1.70	$2\frac{3}{4}$	$\frac{13}{32}$	7.00	$5\frac{1}{4}$
$\frac{1}{8}$	1.80	3	$\frac{7}{16}$	8.50	$5\frac{1}{2}$
$\frac{5}{32}$	1.90	$3\frac{1}{4}$	$\frac{15}{32}$	10.00	$5\frac{3}{4}$
$\frac{3}{16}$	2.25	$3\frac{1}{2}$	$\frac{1}{2}$	12.00	6
$\frac{7}{32}$	2.75	$3\frac{3}{4}$	$\frac{17}{32}$	12.50	6
$\frac{1}{4}$	3.25	4	$\frac{9}{16}$	13.00	6
$\frac{9}{32}$	3.80	$4\frac{1}{4}$	$\frac{19}{32}$	13.50	6
$\frac{5}{16}$	4.35	$4\frac{1}{2}$	$\frac{5}{8}$	14.00	6
$\frac{11}{32}$	5.05	$4\frac{3}{4}$	.....	.....	.....

No. 109C Standard Straight Shank Machine Bits

Carbon Steel—For Wood



Provide ample clearance for chips; will bore true, smooth holes in hard or soft wood without splitting it.

Diam. In.	Each	Length Over All In.	Diam. In.	Each	Length Over All In.
$\frac{1}{8}$	\$.40	3	$\frac{19}{32}$	\$1.40	6 $\frac{3}{4}$
$\frac{5}{32}$	.45	$3\frac{1}{4}$	$\frac{5}{8}$	1.50	6 $\frac{1}{2}$
$\frac{3}{16}$	.50	$3\frac{1}{2}$	$\frac{21}{32}$	1.60	6 $\frac{3}{4}$
$\frac{7}{32}$	.55	$3\frac{3}{4}$	$\frac{11}{16}$	1.70	7
$\frac{1}{4}$	.60	4	$\frac{23}{32}$	1.80	7 $\frac{1}{4}$
$\frac{9}{32}$	.65	$4\frac{1}{4}$	$\frac{3}{4}$	1.90	7 $\frac{1}{2}$
$\frac{5}{16}$	.70	$4\frac{1}{2}$	$\frac{13}{16}$	2.10	8
$\frac{11}{32}$	.75	$4\frac{3}{4}$	$\frac{7}{8}$	2.50	8 $\frac{1}{2}$
$\frac{3}{8}$	.80	5	$\frac{15}{16}$	2.90	9
$\frac{13}{32}$	.85	$5\frac{1}{4}$	1	3.25	9 $\frac{1}{2}$
$\frac{7}{16}$	.90	$5\frac{1}{2}$	$\frac{11}{16}$	3.75	11 $\frac{1}{4}$
$\frac{15}{32}$	1.00	$5\frac{3}{4}$	$\frac{11}{8}$	4.25	11 $\frac{3}{4}$
$\frac{1}{2}$	1.10	6	$\frac{13}{16}$	4.75	12
$\frac{17}{32}$	1.20	$6\frac{1}{8}$	$\frac{11}{4}$	5.25	12 $\frac{1}{2}$
$\frac{9}{16}$	1.30	$6\frac{1}{4}$	.....	.....	.....

Convalco Counterbores

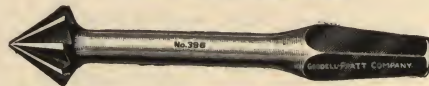


Useful in boat building, cabinet making, or any work which requires use of bung over fastening.

Has extension lip, which is superior form of cutting edge for wood boring tools. Stop has chipway, which is always in perfect relation to flute of bit, thus allowing chips free exit, and preventing their accumulation under stop. Adjusting slot, which is on a 45° angle, permits accurate and easy setting of stop. Made only with round shank as its use is particularly adapted to small electric or breast drills.

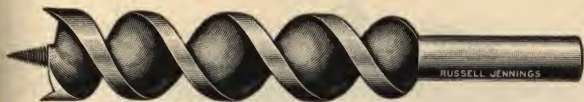
Size.....inches	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$
Per Dozen.....	\$36.00	42.00	48.00	60.00	72.00
No. Drill.....	36	32	30	25	18
Size Shank.....inches	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$

Rose Countersinks



Packed 6 in box.

No.....	396	691
Per Dozen.....	\$5.50	8.80
Extreme Diameter.....inches	$\frac{3}{4}$	$1\frac{1}{4}$

Russell Jennings Turned Shank Machine Bits

Made of tool steel of uniform analysis. They are hardened by a special heat treating and tempering process.

These bits are ground to exact sizes and cutting edges will not wear quickly. All are made and carefully inspected by experienced bit makers before being shipped.

Price, per Dozen

Size in 16ths	LENGTH OF TWIST, INCHES					
	6	8	10	12	14	16
4	\$10.80	\$12.96	\$15.12	\$17.28	\$19.44	\$21.60
5	10.80	12.96	15.12	17.28	19.44	21.60
6	10.80	12.96	15.12	17.28	19.44	21.60
7	10.80	12.96	15.12	17.28	19.44	21.60
8	10.80	12.96	15.12	17.28	19.44	21.60
9	12.00	14.40	16.80	19.20	21.60	24.00
10	13.20	15.84	18.48	21.12	23.76	26.40
11	14.40	17.28	20.16	23.04	25.92	28.80
12	15.60	18.72	21.84	24.96	28.08	31.20
13	16.80	20.16	23.52	26.88	30.24	33.60
14	18.00	21.60	25.20	28.80	32.40	36.00
15	19.20	23.04	26.88	30.72	34.56	38.40
16	20.40	24.48	28.56	32.64	36.72	40.80
17	21.60	25.92	30.24	34.56	38.88	43.20
18	22.80	27.36	31.92	36.48	41.04	45.60
19	24.00	28.80	33.60	38.40	43.20	48.00
20	25.20	30.24	35.28	40.32	45.36	50.40
21	26.40	31.68	36.96	42.24	47.52	52.80
22	27.60	33.12	38.64	44.16	49.68	55.20
23	28.80	34.56	40.32	46.08	51.84	57.60
24	30.00	36.00	42.00	48.00	54.00	60.00
25	31.50	37.80	44.10	50.40	56.70	63.00
26	33.00	39.60	46.20	52.80	59.40	66.00
27	34.50	41.40	48.30	55.20	62.10	69.00
28	36.00	43.20	50.40	57.60	64.80	72.00
29	37.50	45.00	52.50	60.00	67.50	75.00
30	39.00	46.80	54.60	62.40	70.20	78.00
31	40.50	48.60	56.70	64.80	72.90	81.00
32	42.00	50.40	58.80	67.20	75.60	84.00
34	45.60	54.72	63.84	72.96	82.08	91.20
36	49.20	59.04	68.88	78.72	88.56	98.40
38	52.80	63.36	73.92	84.48	95.04	105.60
40	56.40	67.68	78.96	90.24	101.52	112.80
42	60.60	72.72	84.84	96.96	109.08	121.20
44	64.80	77.76	90.72	103.68	116.64	129.60
46	69.00	82.80	96.60	110.40	124.20	138.00
48	73.20	87.84	102.48	117.12	131.76	146.40
50	78.00	93.60	109.20	124.80	140.40	156.00
52	82.80	99.36	115.92	132.48	149.04	165.60
54	87.60	105.12	122.64	140.16	157.68	175.20
56	92.40	110.88	129.36	147.84	166.32	184.80

Standard shank up to and including 12-inch twist is 2 inches long by 1/2 inch in diameter. On bits with shanks larger than listed and with twist over 12 inches long, prices upon application.

No. 157 Greenlee Ship-Auger Machine Bits With Screw

The single twist or spiral with the single cutter makes a stiff, strong tool, yet provides ample chip clearance.

Particularly suited for boring to extreme depths and is well adapted for use in portable boring machines for all construction work.

Stock is carried with 12-inch twist, sizes 7/16 to 1 1/16-inch inclusive by sixteenths and with 18 and 24-inch twist lengths, sizes 3/16 to 1 1/16-inch inclusive.

All stock sizes are made with polished twist and hollows and with 1/2-inch shank. Other sizes and lengths are special.

Prices upon application.

No. 140 Greenlee Single-Spiral Plug Cutters

This cutter is made with a barrel 2 3/8 inches long with standard 1/2x2-inch shank. It can cut cross or end-grain plugs up to 2 inches long, and cross-grain plugs can be cleared through the 1 1/8-inch opening, up to 1 inch thick. The plug is outlined with a knife-edge rim, and stock is removed by a single cutting edge pitched at a slight angle, resulting in a very smooth cut. The single-spiral flute gives ample room for clearing chips, eliminating burning.

Size.....inches	3/8	7/16	1/2	5/8
No. 140.....each	\$3.75	3.75	3.75	4.40
Size.....inches	3/4	7/8	1	.....
No. 140.....each	\$4.85	5.45	6.00	.....

Larger sizes can be furnished upon request.

Delta High-Grade Router Bits

For routing, carving, round-end mortises and grooving work of all kinds.

Made of high grade steel, tempered.

Shank diameter, 1/2 inch; length, 1 1/2 inches.

No.....	474	475	476	477	478
Size.....inches	1/4	5/16	3/8	7/16	1/2
Length of Flute.....inches	1 1/4	1 1/4	1 1/4	1 1/4	1 1/2
Each.....	.....	.....	.....	.....	.....
Shipping Weight.....ounces	4	4	4	4	4

No. 480, Set of 5 Router Bits, Sizes as Above,

Shipping Weight 2 Pounds.....each

No. 101B Greenlee Regular Hollow Chisels

Has 4-inch blade. The 1/4 and 5/8-inch have re-enforced blade to mortise 1 1/8-inch deep, all larger sizes having straight blade mortising to a depth of about three inches.

Size In.	Shank In.	Price Each	Size In.	Shank In.	Price Each
1/4x1 1/4	5/8x1 1/2	\$4.40	1 1/2x1 1/2	5/8x1 1/2	\$5.25
5/16x5/16	5/8x1 1/2	4.40	1 1/2x5/8	5/8x1 1/2	6.00
3/8x3/8	5/8x1 1/2	4.40	1 1/2x3/4	5/8x1 1/2	6.40
3/8x7/16	5/8x1 1/2	4.95	9/16x9/16	3/4x1 1/2	5.65
5/8x1/2	5/8x1 1/2	5.15	5/8x5/8	3/4x1 1/2	6.05
3/8x9/16	5/8x1 1/2	5.40	11/16x1 1/16	3/4x1 1/2	6.50
7/16x7/16	5/8x1 1/2	4.80	3/4x3/4	1 1/8x1 1/2	6.90
7/16x1 1/2	5/8x1 1/2	5.40	7/8x7/8	1 1/8x1 1/2	7.80

No. 120B Greenlee Regular Hollow Chisel Bits

Has 6-inch twist, 9-inch overall length except on 1/4 and 5/8-inch sizes which have 3 1/4-inch twist, 9-inch overall length. The twist terminating at the center of the openings in the reinforced section of the chisel.

Sizes 5/8-inch and larger with shank 1/2-inch in diameter can also be furnished.

Size In.	Each	Shank In.	Size In.	Each	Shank In.
1/4	\$1.20	3/16	9/16	\$1.35	19/64
5/16	1.20	1/4	5/8	1.50	19/64
3/8	1.20	19/64	11/16	1.70	19/64
7/16	1.20	19/64	3/4	1.80	19/64
1/2	1.20	19/64	7/8	2.20	19/64

No. 655A Goodell-Pratt Hand Drills

Capacity, 0 to $\frac{1}{4}$ -inch round shank drills. Three-jaw chuck, all steel.

A well made drill with end handle of mahogany finished hardwood. Large gear finished in red enamel with machine cut teeth. Black enameled malleable iron frame.

Length, $11\frac{3}{4}$ inches.

Packed one in a box. Shipping weight, $1\frac{1}{4}$ pounds.

No. 655A.....each \$1.90

No. 05 Millers Falls Hand Drills

Capacity, 0 to $\frac{1}{4}$ inch round shank drills. Three-jaw chuck, improved protected springs. Single speed. Ball thrust bearing. Cut gears. Steel pinions.

Double pinion, including idler pinion to equalize the bearings. Side handle detachable. Main handle is solid, of stained hardwood. Large gear, enameled red; malleable iron frame, enameled black. Other metal parts nicked. No drill points furnished.

Length, $12\frac{1}{2}$ inches. Weight each, $1\frac{1}{2}$ pounds.

Packed one in a box.

Price, No. 05.....each \$4.00

No. 5 Millers Falls Hand Drills

Capacity, Up to $\frac{1}{4}$ Inch

For round shank drills. Single speed.

Equipped with a wide rim on the large gear, easily grasped



by thumb and fingers to start small drills and on delicate work. Gear red enameled with polished and nicked rim. Steel drive pinion and equalizing idler pinion.

Three-jaw chuck with protected springs. Black enameled malleable iron frame. All exposed metal parts nickel plated.

Tropical hardwood end handle with screw cap. Eight drill points, $\frac{1}{16}$ to $\frac{1}{4}$ inch in diameter.

Length, $12\frac{7}{8}$ inches. Weight, $1\frac{5}{8}$ pounds.

Packed 1 in a box.

No. 5.....each \$4.40

No. 2 Millers Falls Hand Drills

Capacity, 0 to $\frac{3}{8}$ -inch round shank drills. Three-jaw chuck; protected springs, single-speed; ball thrust bearing; cut gears; one steel drive pinion and one steel idler pinion to equalize large gear bearing.

Detachable side handle, tropical hardwood hollow-end main handle containing 8 wood boring points. Black enameled malleable iron frame; red enameled large gear; other parts nicked.

Length, $14\frac{1}{2}$ inches. Packed 1 in a box. Weight, $2\frac{1}{2}$ pounds.

No. 2, with Drill Points.....each \$5.30

No. 5 $\frac{1}{2}$ Goodell-Pratt Hand Drills

Capacity, 0 to $\frac{3}{8}$ -inch round shank drills. Three-jaw chuck. Two speeds, changed by turning the shifter knob marked fast and slow.

Screw cap tropical hardwood handle; malleable iron, black enameled frame, cut gears, large gear finished in red enamel; steel pinions. Steel spindle runs in ball bearings; has hardened end running in cone bearing.

Length, $14\frac{1}{2}$ inches.

Packed one in a box. Shipping weight, $2\frac{3}{4}$ pounds.

Price, No. 5 $\frac{1}{2}$, without Drill Points.....each \$6.00

No. 5 $\frac{1}{2}$ B Goodell-Pratt Hand and Breast Drills

Capacity, 0 to $\frac{3}{8}$ -inch round shank drills. Three-jaw chuck. Two speeds, changed by turning shifter knob marked fast and slow. Turned steel spindle runs on ball bearings; end runs in a hardened steel cone bearing. Cut gears; steel pinion. Length, $14\frac{1}{2}$ inches.

Polished hardwood handle has large head upon which pressure can be exerted comfortably; large knob side handle. Black enameled malleable iron frame. Red enameled large gear. Packed 1 in a box. Shipping weight, $2\frac{3}{4}$ pounds.

No. 5 $\frac{1}{2}$ B, without Drill Points.....each \$6.00

No. 1431 Yankee Radio Drills

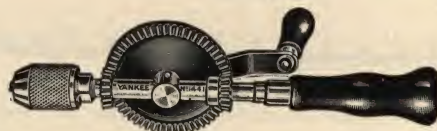
The No. 1431 is especially designed for radio work. It is a beautifully balanced, small, powerful drill with 4 to 1 ratio of gears for speed.

It is furnished with a special radio chuck, $\frac{3}{32}$ inch capacity.

Length over all, $9\frac{1}{2}$ inches.

Packed one in a special display box. Net weight $1\frac{1}{4}$ lb.

No. 1431, Chrome-Plated.....each \$4.40

No. 1441 Yankee Hand Drills

This is a single-speed plain hand drill with 3-jaw chuck for round shank tools only.

Has chrome-plated steel frame and chuck.

Solid grip-handle of polished hardwood.

Two steel pinion gears support main driving gear.

The capacity of chuck is $\frac{3}{8}$ inch.

Length over all, $13\frac{1}{4}$ inches.

Packed 1 in a box. Net weight each, $2\frac{1}{2}$ pounds.

No. 1441.....each \$6.70

No. 1435 Yankee Plain Hand Drills
Two Speeds



A strong and substantially built 3-jaw chuck drill for hard work. Drills $\frac{1}{2}$ inch.

Frame is of malleable iron; spindle is of steel turned and fitted. Gears have teeth cut from solid metal. Each change in speed is made by the small shifter on main frame between small gears. Finished in dead black, bright parts polished, chrome-plated.

Length, 11 inches.

Net Weight, $1\frac{1}{2}$ pounds.

No. 1435.....each \$6.70

No. 1445 Yankee Plain Hand Drills
Capacity Chuck, $\frac{3}{8}$ -Inch Round Shank Drills



Three-jaw chuck. Two speeds, changed by pushing shifter on main frame between small gears. Steel spindle, adjustable ball bearings. Cut gears, steel pinion.

Black malleable iron frame. Bright parts chrome-plated and polished. Polished hardwood main handle can be detached from frame by milled nut to use interior of handle as magazine for drills.

Length, 15 inches. Net weight, $3\frac{1}{2}$ pounds. Packed 1 in a box.

No. 1445.....each \$10.00

No. 1530A Yankee Single Speed Ratchet Hand Drills



Malleable iron frame with dead black finish.

Has right and left-hand and continuous ratchet

movements. Entire handle detachable; is hollow for drills. Spindle is of steel. Gears with cut teeth; large gear, 3-inch diameter; small gear, $\frac{1}{8}$ -inch. The crank is $2\frac{3}{4}$ inches long. Handle is of polished hardwood, 4 inches long, $1\frac{1}{2}$ -inch diameter. Chuck body is of steel, polished and chrome-plated. The three jaws are of tool steel. Chuck holds round shanks only up to $\frac{1}{2}$ -inch diameter.

Extreme length, $10\frac{1}{2}$ inches. Net weight, $1\frac{1}{4}$ pounds. Packed one in a box.

No. 1530-A.....each \$7.10

No. 1545 Yankee Ratchet Hand Drills
Capacity— $\frac{3}{8}$ -Inch Round Shank Drills

Three-jaw chuck. Two speeds, changed by pushing shifter on hub of crank. Steel spindle, adjustable ball bearings.



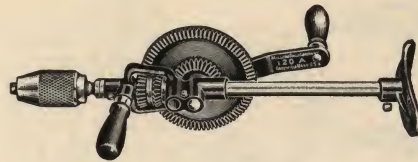
Cut gears. Black malleable iron frame; bright parts chrome-plated and polished. Side handle is screwdriver. Hand drill handle is detachable, hollow for drill

container. Has right and left hand and continuous ratchet movement. Length over all, 16 inches.

Packed one in a box. Net weight, $4\frac{1}{2}$ pounds.

No. 1545.....each \$14.90

No. 120A Millers Falls Breast Drills



Capacity, 0 to $\frac{1}{2}$ -inch round shanks.

Three-jaw chuck; improved protected springs; 2 speeds — gear ratio even and 3 to 1; changed by

pressing spring and shifting large gear.

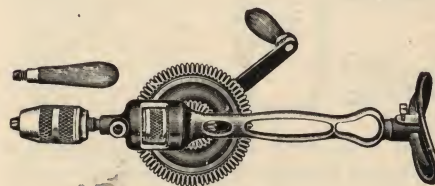
Ball thrust bearing; cut gears; steel pinion; adjustable breast plate. Rolled steel and cast iron frame; large gear enameled red; iron frame, breast plate and crank enameled black; other metal parts polished.

Length, $16\frac{1}{2}$ inches.

Packed one in a box and 12 in a case. Weight, $4\frac{5}{8}$ pounds.

No. 120A.....each \$4.00

No. 2100 Millers Falls Breast Drills



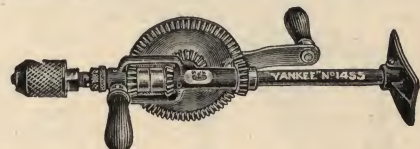
Capacity, 0 to $\frac{1}{2}$ -inch round shank drills. Three-jaw chuck, protected springs. Two speeds, gear ratio even, and 3 to 1. Cut gears, steel pinions.

Stained hardwood handles. Black enameled malleable frame. Red enameled large gear, other metal parts polished.

Slightly rotating the knurled ring changes the speed instantly at any point, and without removing drill from work. Length, $17\frac{1}{2}$ inches.

Price, No. 2100.....each \$6.40

No. 1455 Yankee Plain Breast Drills
Capacity— $\frac{1}{2}$ -Inch Round Shank Drills



Three-jaw chuck. Two speeds, changed by moving small shifter on main frame. Speed changed without removing drill from work. Steel spindle, adjustable ball bearings. Cut gears; steel pinions.

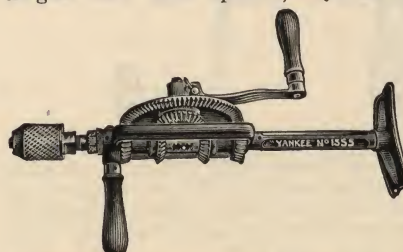
Black malleable iron frame; bright parts polished and chrome-plated. Side handle has screwdriver bit to adjust screws. Adjustable breast plate with polished face.

Length, $16\frac{1}{2}$ inches. One in a box. Net weight, 6 pounds.

No. 1455.....each \$11.50

No. 1555 Yankee Ratchet Breast Drills
Capacity— $\frac{1}{2}$ -Inch Round Shank Drills

Three-jaw chuck. Two speeds, changed by tipping lever on gear hub. Steel spindle, adjustable ball bearings. Cut



gears. Black malleable iron frame; bright parts chrome-plated and polished. Side handle is screwdriver.

Adjustable breast plate, polished.

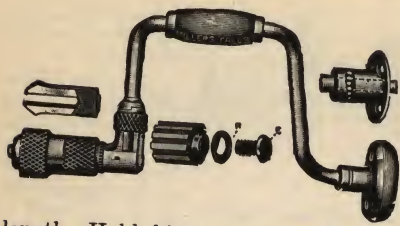
Has right and left hand and con-

tinuous ratchet movement. Length over all, 17 inches.

Packed one in a box. Net weight, $7\frac{3}{4}$ pounds.

No. 1555.....each \$17.10

Millers Falls Ratchet Bit Braces



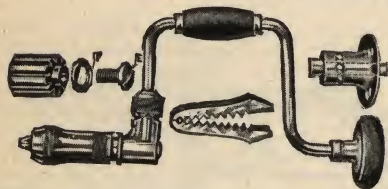
Has cocobolo head and handle. Exposed metal parts nickel plated and buffed. Has Lion ball bearing chuck and jaws have parallel milled grooves which grip along their entire

length. Holds bit shanks, round from $\frac{1}{8}$ to $\frac{1}{2}$ inch and No. 1 Morse taper shanks. Boxed ratchet.

Packed 2 in a box.

No.	769	770	771	772	773
Each.	\$7.10	6.70	6.60	6.40	6.40
Sweep. inches	16	14	12	10	8
Weight per Box. pounds	9	8	7	6 $\frac{3}{4}$	6

Millers Falls Ratchet Bit Braces



Holds bit shanks only. Barber chuck with forged steel alligator jaws. Boxed ratchet. Ball-bearing steel clad head, with steel quill. Handle has inserted metal

rings. Tropical hardwood head and handle. Exposed metal parts are nickel-plated and buffed.

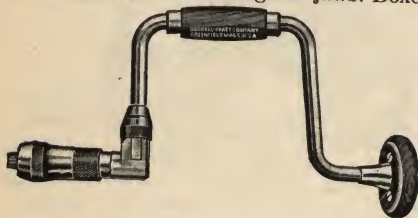
This brace will fulfill every boring requirement where bit shanks only are used.

Packed $\frac{1}{2}$ dozen in a box.

No.	30	31	32	33	34
Each.	\$5.70	5.50	5.30	5.30	5.30
Sweep. inches	14	12	10	8	6
Wt. per $\frac{1}{2}$ Dozen. pounds	6 $\frac{3}{4}$	6	5 $\frac{3}{4}$	5	4 $\frac{1}{2}$

Millers Falls Ratchet Braces

Has steel clad ball bearing head. All-steel chuck with self-opening, forged steel alligator jaws. Boxed ratchet with ring shift.

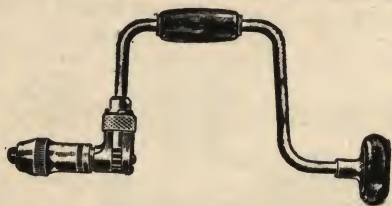


Handle has inserted metal rings. Head and handle mahogany finished hardwood. All exposed parts polished, nickel plated and buffed.

Packed 2 in a box.

No.	7006	7008	7010	7012	7014
Each.	\$4.40	4.40	4.40	4.60	4.60
Sweep. inches	6	8	10	12	14
Weight. pounds	2 $\frac{1}{2}$	2 $\frac{5}{8}$	2 $\frac{3}{4}$	2 $\frac{7}{8}$	3

Mohawk-Shelborne Ratchet Bit Braces

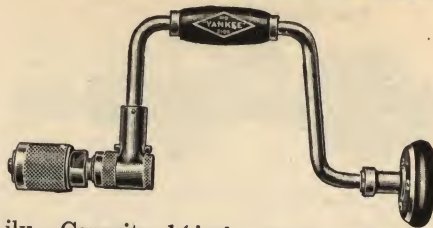


Equipped with Barber chuck with malleable alligator jaws and a sturdy semi-boxed ratchet. Knurled shifter ring finished in red enamel. Handles are mahogany stained hardwood. Stained hardwood head screwed on and locked with 2 wood screws. Size sweep, 10 inches.

Packed 6 in a box. Weight, 2 $\frac{1}{4}$ pounds.

No. 1410, Polished. dozen	\$14.50
No. 1610, Polished and Nickered. dozen	17.05

No. 2100 Yankee Ratchet Bit Braces



Has ball-bearing chuck of new design with unusual grip. Firmly holds round, taper and square-shank bits without loosening in use, yet releases eas-

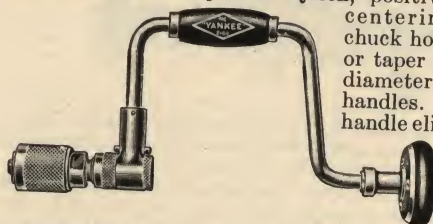
ily. Capacity, $\frac{1}{2}$ -inch. Dust-proof, moisture-proof ratchet works so easily that most bits start without holding chuck. Quick, positive shifter.

Handles of hard rubber, unbreakable and will not warp, shrink or swell. Ball-bearing, steel-clad head. Two in box.

Sweep. inches	8	10	12	14
Each.	\$13.00	13.30	13.60	14.10
Net Weight. pounds	3	3 $\frac{1}{8}$	3 $\frac{1}{4}$	3 $\frac{3}{4}$

No. 2101 Yankee Ratchet Bit Braces Industrial Type

Ratchet case is dust and moisture proof. Tool steel pawls, hardened and tempered. Quick, positive shifter. Quick



centering, ball-bearing chuck holds round, square, or taper bits up to $\frac{1}{2}$ inch diameter. Hard rubber handles. Patented sweep handle eliminates excessive play. Top handle screwed on handle quill with heavy thread.

Dull nickel finish. Packed 6 of one size in a box.

Sweep. inches	8	10	12	14
No. 2101. each	\$11.30	11.50	11.80	12.40
Ship. Wt. per 6. pounds	24 $\frac{1}{4}$	25 $\frac{1}{8}$	25 $\frac{3}{4}$	29 $\frac{1}{8}$

No. 108 Millers Falls Angular Bit Stocks



Capacity, $\frac{1}{8}$ to $\frac{1}{2}$ -in. round, bit shanks and No. 1 Morse taper shanks. Master chuck. Boring angle

adjustable from 180° to 125°. Weight, each, 2 pounds. Packed 1 in a box.

Price, No. 108. each \$3.85

Millers Falls Brace Jaws



Jaw No.	For Braces No.	Per Pair
6	141-143, 161-163, 631-633, 261-263, 1410	\$1.10
6P	1610, 1661-1663	.20
7	421-423	.30
8	30-34, 30A-34A, 131-133, 321-323, 1321-1324, 12-14, 221-223, 1710, 1810, 1910, 7006-7014	.60
9	730-734, 8130-8133, 2510-2512	.60
10	870-872, 769-773, 7312	.65

No. 2 Millers Falls Auger Handles

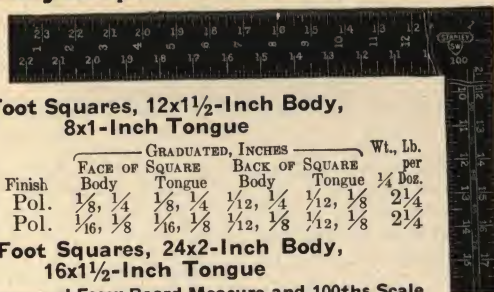


Stout, straight grained handle; made of selected ash. Capacity:

regular bit shanks up to 2 inches; ship auger shanks up to $\frac{1}{4}$ inches. Augers are held by two 3-inch steel clamps. Length, 17 inches. Packed 6 in a box. Weight, $\frac{1}{4}$ pounds.

No. 2. each \$1.20

Stanley Carpenters' Steel Squares



1-Foot Squares, 12x1 1/2-Inch Body, 8x1-Inch Tongue

No.	Each	Finish	FACE OF SQUARE Body	GRADUATED, INCHES Tongue	BACK OF SQUARE Body	GRADUATED, INCHES Tongue	Wt., Lb. per 1/4 Doz.
10	\$1.25	Pol.	1/8, 1/4	1/16, 1/8	1/12, 1/4	1/12, 1/8	2 1/4
12	1.40	Pol.	1/16, 1/8	1/16, 1/8	1/12, 1/8	1/12, 1/8	2 1/4

2-Foot Squares, 24x2-Inch Body, 16x1 1/2-Inch Tongue

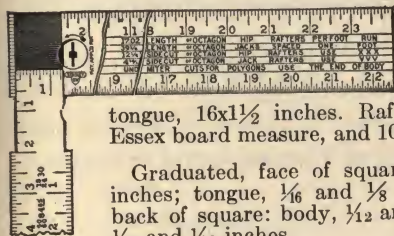
No.	Each	Finish	FACE OF SQUARE Body	GRADUATED, INCHES Tongue	BACK OF SQUARE Body	GRADUATED, INCHES Tongue	Wt., Lb. per 1/4 Doz.
*100	\$1.95	Polished	1/16, 1/8	1/16, 1/8	1/12, 1/4	1/12, 1/8	6 1/4
*100B	2.40	Blued	1/16, 1/8	1/16, 1/8	1/12, 1/4	1/12, 1/8	6 1/4
100C	2.70	Royal Cop.	1/16, 1/8	1/16, 1/8	1/12, 1/4	1/12, 1/8	6 1/4
100N	2.80	N.P.	1/16, 1/8	1/16, 1/8	1/12, 1/4	1/12, 1/8	6 1/4
100G	2.45	Galvanized	1/16, 1/8	1/16, 1/8	1/12, 1/4	1/12, 1/8	6 1/4
Brace and Essex Board Measure							
3	\$1.75	Polished	1/16, 1/4	1/16, 1/4	1/12, 1/4	1/12, 1/4	6 1/4
3B	2.20	Blued	1/16, 1/4	1/16, 1/4	1/12, 1/4	1/12, 1/4	6 1/4
3G	2.30	Galvanized	1/16, 1/4	1/16, 1/4	1/12, 1/4	1/12, 1/4	6 1/4
Essex Board Measure							
14	\$1.60	Polished	1/8, 1/4	1/8, 1/4	1/4	1/4	6 1/4
14B	2.00	Blued	1/8, 1/4	1/8, 1/4	1/4	1/4	6 1/4
14G	2.10	Galvanized	1/8, 1/4	1/8, 1/4	1/4	1/4	6 1/4

Rafter or Framing Squares, 24x2-Inch Body, 16x1 1/2-Inch Tongue

No.	Each	Finish	FACE OF SQUARE Body	GRADUATED, INCHES Tongue	BACK OF SQUARE Body	GRADUATED, INCHES Tongue	Wt., Lb. per 1/4 Doz.
*R100	\$2.30	Polished	1/16, 1/8	1/16, 1/8	1/12, 1/4	1/12, 1/8	6 1/4
*R100B	2.70	Blued	1/16, 1/8	1/16, 1/8	1/12, 1/4	1/12, 1/8	6 1/4
R100C	3.00	Royal Cop.	1/16, 1/8	1/16, 1/8	1/12, 1/4	1/12, 1/8	6 1/4
R100G	3.10	Galvanized	1/16, 1/8	1/16, 1/8	1/12, 1/4	1/12, 1/8	6 1/4
Rafter or Framing, Brace, and Essex Board Measure							
R3	\$1.95	Polished	1/16, 1/4	1/16, 1/4	1/12, 1/4	1/12, 1/4	6 1/4
R3B	2.40	Blued	1/16, 1/4	1/16, 1/4	1/12, 1/4	1/12, 1/4	6 1/4

*With 18x1 1/2-inch tongue at no extra cost.

Stanley Carpenters' Take Down Steel Squares



Recommended for all ordinary carpenter work.

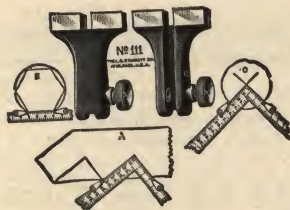
Body, 24x2 in.; tongue, 16x1 1/2 inches. Rafter, brace, octagon, Essex board measure, and 100ths scale.

Graduated, face of square: body, 1/16 and 1/8 inches; tongue, 1/16 and 1/8 inches. Graduated, back of square: body, 1/12 and 1/32 inches; tongue, 1/10 and 1/12 inches.

Packed 1 in a waterproof canvas case; weight, 2 3/4 pounds.

No. R100-TD, Polished Finish.....	each \$6.70
No. R100B-TD, Blued Finish.....	each 6.95

No. 111 Starrett Stair Gauge Fixtures



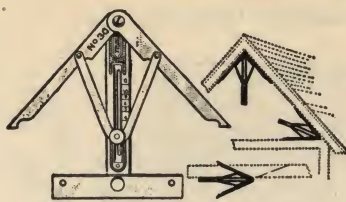
These fixtures can be readily clamped to a carpenter's steel square to form a gauge for various uses.

A shows the gauge as applied for laying out a stair stringer; B, laying off hexagon angles; C, as used as a center gauge or in quartering a circle.

These fixtures are light, neat and efficient.

Price, No. 111.....per pair \$.90

No. 30 Stanley Angle Dividers



To lay out the cut bisecting an angle with an ordinary bevel necessitates the use of dividers and a second handling of the bevel.

The Stanley Angle Divider is designed for performing this work at one setting. The two blades each

fit one side of an angle and the handle gives the center line. The cut is marked from the center.

The handle is graduated on the under side for laying out 4, 5, 6, 8 or 10-sided work, and by means of a removable T head, it can also be used as a T square. Nickel-plated.

Packed one in a box. Weight each, 5/8 pound.

No. 30, 8 1/4 Inches Long Over All.....each \$2.65

No. 1200 M-S Squares



This combination square is fitted with a 12-inch steel blade, 1 inch wide. The figures are large and clear, and the graduation lines deeply etched,

not stamped. Graduated on one side in 8ths and 16ths, and 16ths and 32nds on the other. The beam is 4 inches long, black enameled except for the bearing surfaces which are carefully machined. The beam is equipped with a cat's eye level and a scribe. Knurled clamp nut finished in red enamel.

Weight 15 ounces.

Packed one in a box.

No. 1200.....each \$1.20

No. 25 Stanley Sliding T Bevels



Improved locking device prevents blade from slipping. Blade is machined and ground on both sides and edges.

Has a rosewood handle and blued blade. Brass tips.

Packed 6 in a box.

Length Blade.....inches	6	8	10	12
No. 25.....per dozen	\$8.40	8.40	9.00	11.40
Size Handle.....inches	4 1/2	5 1/2	6 1/2	7 5/8
Weight per Box.....pounds	1 1/8	1 5/8	2	2 1/2

No. 20 Stanley Try Squares



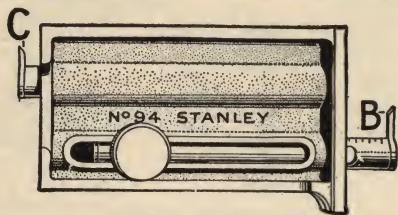
The edge of the blade is machined and is square inside and out. Regularly graduated in eighths of an inch, but can be furnished with metric graduations without additional charge. Rosewood handle, brass face plate, blued blade.

The 15-inch size has handle rests. Packed 6 in a box.

Lgth. Blade in.	4 1/2	6	7 1/2	8	9	10	12	15
No. 20, per doz.	\$8.40	9.00	9.00	9.60	10.80	12.80	16.20	21.00
Size Handle in.	3 5/8	4 1/2	5 3/8	5 3/8	6	6	7	8 1/4
Wt. per 1/2 Doz. lb	1 5/8	2 1/8	2 7/8	3 1/8	3 5/8	3 3/4	4 1/2	6 1/8

No. 94 Stanley Butt Gauges

For Rabbeted Jamb or Nailed Strikes



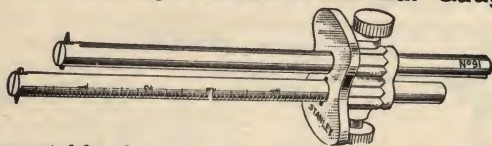
Nickel plated, graduated in 16ths for 2 inches.

Can also be used as a marking and mortise gauge and as an inside or outside square for squaring the edge of butt on either door or jamb. Weight, each $\frac{5}{8}$ pound.

Packed one in a box.

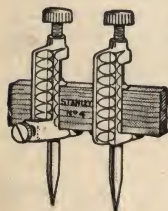
Price, No. 94.....each \$2.10

No. 91 Stanley Double Metal Bar Gauges



Has metal head, pin point. Wt., $\frac{1}{2}$ lb. One in box.

Price, No. 91, Nickel-plated.....each \$1.60



No. 4 Nickeled Trammel Points

The No. 4 trammel point is nickel-plated. It can be attached to one side of a straight stick. Pencil socket takes an ordinary sized pencil or a full sized oval shaped carpenters' pencil.

Packed one set in a box.

No.	For Straight Edge, Inches	Wt., per Set, Lbs	Per Set
4	$\frac{1}{4}$	$\frac{3}{8}$	\$1.60

No. 106 Wing Dividers



The wings and nuts on the wings are made of steel; the washers on the joints are brass.

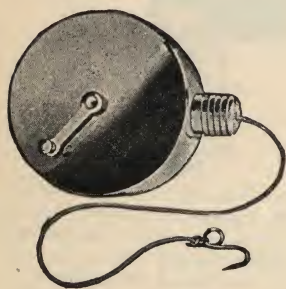
Points are hardened and every care is taken with the threads of the screws, which hold the legs in position.

The spring is tempered and is made for easy adjustment while holding the legs firmly.

Packed 6 in a box.

Size In.	Per Doz.	Wt. Lb. per Doz.	Size In.	Per Doz.	Wt. Lb. per Doz.
5	\$11.00	3	10	\$20.00	7
6	11.00	$3\frac{1}{2}$	12	24.00	$9\frac{1}{4}$
7	13.00	$3\frac{3}{8}$	15	56.00	17
8	15.00	4	18	66.00	19
9	18.00	$6\frac{1}{4}$	24	100.00	27

Seymour Self-Chalking Chalk Line Reels



A compact reel in a cadmium plated case. Contains 50 feet of cord and a supply of powdered chalk.

The hook at the end of the line holds the line at any point.

Packed 1 in a box; 12 boxes in a corrugated container.

Each.....\$1.00
Weight, per Dozen.....lbs. 6

Powdered Chalk

Packed in small envelope, each envelope containing 1 ounce, which is sufficient for one replacement.

Per Box.....\$1.10

No. 26E Empire Aluminum Torpedo Levels



Designed to avoid all sharp corners. Cored to eliminate excess weight. The ends and bottom are reinforced. Bottom is also provided with groove for use on shafting. The plumb vials are proved with two marks and the level vial is graduated to indicate $\frac{1}{2}$ degree and 1 degree fall, also true level position. The vials are accurately set and contain a colored fluid for distinct reading.

Polished top and satin finished sides.

Has 1 level, 1 plumb and a 45-degree glass.

Length, 9 inches. Width, $\frac{5}{8}$ inches. Height, $1\frac{1}{4}$ inches.

Packed 6 in a counter display box.

Weight, 4 ounces.

No. 26E.....each \$1.40

No. A-10 Disston Featherweight Pocket Levels



Made from the same aluminum alloy used in airplane

construction. The etched lines on the level glass and 2 plumb glasses are proved. Will not rust or corrode.

Length, 9 inches. Packed 6 in a box.

No. A-10.....per dozen \$19.00

No. 1297 Stanley Aluminum Plumbs and Levels



Rigid aluminum alloy casting, top and bottom milled

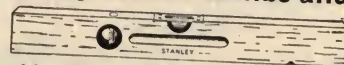
parallel, finished bright red; 6 proved glasses, 2 double plumbs and 1 double level, protected by heavy glass windows.

Length.....inches 18 24 28

No. 1297.....each \$1.95 2.15 2.65

Weight.....pounds $1\frac{1}{2}$ 2 $2\frac{3}{8}$

No. 0 Stanley Wood Plumbs and Levels



Non-adjustable. Proved glass. Stock, $2\frac{3}{4} \times 1\frac{3}{8}$ inches.

Packed 6 in a case.

Length.....inches 24 26 28 30

No. 0.....each \$1.70 1.80 1.90 2.00

Weight.....pounds $1\frac{5}{8}$ 2 $2\frac{3}{8}$ $2\frac{1}{4}$

$\frac{1}{2}$ Dozen Assorted, Weight 18 Pounds.....per dozen \$12.30

No. 208 Stanley Proved Level Glasses



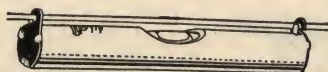
Glasses are packed one dozen in a box.

Length.....inches 1- $1\frac{3}{4}$ 2 $2\frac{1}{4}$ $2\frac{1}{2}$ 3 $3\frac{1}{2}$ Asst'd

No. 208....per dozen \$1.80 1.80 1.80 1.80 1.80 1.80 1.80

Wt. per Doz..pounds $\frac{1}{4}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{5}{8}$ $\frac{5}{8}$ $\frac{3}{4}$

No. 187 Stanley Line Levels



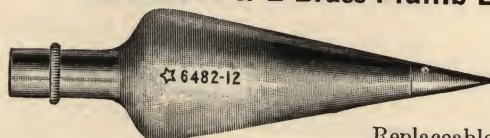
Especially useful when laying brick walls, digging ditches, trimming hedges, etc. Bottom is flat for surface leveling. Proved level glass. Length, $3\frac{1}{4}$ inches.

Packed in individual metal cases, 6 in a carton.

Weight per $\frac{1}{2}$ dozen, 3 ounces.

No. 187.....per dozen \$6.60

No. 6482 K & E Brass Plumb Bobs



Screw cap.

Replaceable steel point.

Cap.....oz. 4 6 8 10 12 14 16 18 24
Each.....\$.80 .90 1.05 1.20 1.25 1.50 1.70 2.10 2.90

No. 11 Peerless Plasterer's Levels



A good household and general utility tool. Made of mahogany without end plates. Finished in natural color. Equipped with two levels, and two plumbs, one of the latter being set at an angle of 45 degrees, to read from the bottom.

Dimensions, $2\frac{1}{8} \times 1\frac{1}{8}$ inches.

Packed 3 in a carton.

Length.....	inches	12	16	20
Weight.....	pounds	$\frac{7}{8}$	1	$1\frac{1}{8}$
Shipping Weight.....	pounds	$1\frac{1}{2}$	$1\frac{1}{2}$	2
No. 11.....	each	\$2.25	2.40	2.55

No. 4 Peerless Carpenter's Levels



A good cheap carpenter level. Made of white pine. Fitted with brass end plates. One plumb in each end and two levels in the center. Reads either end or either side up. Finished in dark maroon color.

Dimensions, $2\frac{3}{8} \times 1\frac{1}{4}$ inches.

Packed one in a carton.

Length.....	inches	24	26	28	30
Weight.....	pounds	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{3}{8}$	$1\frac{1}{2}$
Shipping Weight.....	pounds	2	2	2	2
No. 4.....	each	\$2.50	2.55	2.60	2.65

No. 3 Peerless Mason's Levels



Made of the best grade of white pine, thoroughly dried. Fitted with brass end plates. Six glasses. Easily and quickly read either side or either end up.

Dark maroon finish.

Furnished with 2 hand holes if desired, in place of finger grips, at same price.

Dimensions, $1\frac{1}{4} \times 2\frac{3}{8}$ inches.

Packed 1 in a carton.

Length.....	inches	42	48
Weight.....	pounds	2	$2\frac{1}{4}$
Price.....	each	\$4.00	4.25

No. 40 Peerless Masons' Levels



Made of straight grained white pine, and fully brass bound. Has 6 glasses and is finished in dark maroon.

Brass bound levels have brass binding on all four edges, $\frac{3}{8} \times \frac{1}{16}$ inch, securely attached to the level by cement coated brass drive screws with countersunk heads, which prevent brass from pulling loose. Furnished with 2 hand holes if desired, in place of finger grips, at same price.

Dimensions, $1\frac{1}{16} \times 2\frac{1}{16}$.

Packed one in a carton.

Length.....	inches	42	48
Weight.....	pounds	3	$3\frac{1}{2}$
Shipping Weight.....	pounds	$3\frac{1}{2}$	4
No. 40.....	each	\$5.25	5.75

No. 5114 K & E Architects' Convertible Y Levels



Telescope, 11 inches; erecting. Object glass, $1\frac{1}{8}$ inches effective aperture 1.06 inches), with improved rack and pinion movement. Eyepiece with spiral focusing arrangement. Magnifying power 18 diameters. Spirit level to telescope, graduated on the glass and ground to a sensitiveness of about 60 seconds of arc per graduation.

Level bar of gun metal Y's fitted with improved locking arrangement, dispensing with pin bolts.

Horizontal limb is $3\frac{1}{4}$ inches in diameter, graduated in degrees and numbered in quadrants with vernier reading to 5 minutes. Improved clamp and tangent screw with counterspring. Four leveling screws; shifting center.

Morocco finish.

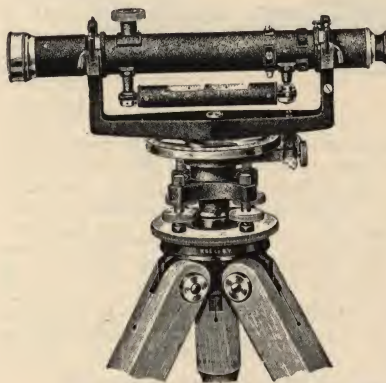
Weight of instrument, about $6\frac{3}{4}$ pounds. Weight of tripod, about 9 pounds.

Price, No. 5114, Complete with Metal Trivet, Plumb Bob, Sunshade, Adjusting Pins and Directions in Strong Case, with No. 5174 Hardwood Tripod.....each \$105.00

Price, No. 5114, with Extension Tripod No. 5181 in Place of Tripod No. 5174, Add.....each 13.00

No. 5112T K&E Architects' Y Levels

With Horizontal Limb



Telescope 11 inches, achromatic terrestrial. Object glass $1\frac{1}{8}$ inch (effective aperture 1.06 inch) with improved rack and pinion movement. Eye-piece with spiral focusing arrangement. Magnifying power 18 diameters. Spirit level to telescope, graduated on the glass and ground to a sensitiveness of about 60 seconds of arc per graduation.

Level bar is of gun metal. Y's fitted with improved locking arrangement dispensing with pin bolts.

Horizontal limb is $3\frac{1}{4}$ inches in diameter, graduated to degrees and numbered in quadrants with vernier reading to 5 minutes. Four leveling screws. Shifting center. Improved clamp and tangent screw with counterspring.

Morocco finish.

Furnished complete with metal trivet, plumb bob, sunshade, adjusting pins and directions, in strong case and with No. 5174 hardwood tripod.

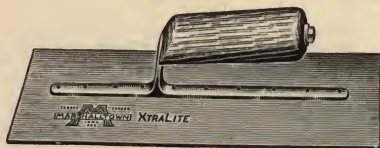
Weight of instrument, about $5\frac{3}{4}$ pounds.

Weight of tripod, about 9 pounds.

No. 5112T.....each \$95.00

No. 5181 Extension Tripod in Place of No. 5174 Tripod, Extra.....each 13.00

Type MX Marshalltown XtraLite Finishing Trowels



Trowel has light, flexible blade of crucible spring steel, tempered and taper ground. Mounting is of forged aluminum; fastened to blade with hard steel rivets. Has tapered smooth wood handle.

One in a box. Weight per dozen, No. MX3, 13½ pounds.

No.	MX91	MX1	MX2	MX3	MX4
Per Dozen.....	\$36.00	36.00	36.00	36.00	36.00
Length.....inches	10½	11	11½	11	11½
Width.....inches	4½	4½	4½	4¾	4¾

Type MXS Marshalltown XtraLite Finishing Trowels



Trowel has a light, flexible blade of crucible spring steel, tempered and taper ground. Mounting is of forged aluminum; fastened to blade with hard steel rivets. California pattern handle is of hardwood, oval shaped.

One in a box. Weight per dozen, No. MXS3, 15 pounds.

No.	MXS91	MXS1	MXS2	MXS3	MXS4
Per Dozen.....	\$36.00	36.00	36.00	36.00	36.00
Length.....inches	10½	11	11½	11	11½
Width.....inches	4½	4½	4½	4¾	4¾

Type MC Marshalltown Cement Trowels



For finishing cement. Slightly convex face blade is made of highest grade spring steel, tempered, ground and polished. Mounting, of special analysis steel, light and rigid, is fastened to blade with hard steel rivets. Steel nut and washer hold smooth finished basswood handle in place; handle lacquered to preserve finish. Packed 4 in box. Weight per doz., No. MC64, 13½ lbs.

No.	Per Doz.	Lgth. In.	Width In.	Rivets	No.	Per Doz.	Lgth. In.	Width In.	Rivets
MC1	\$33.00	11	4½	10	MC64	\$36.00	14	4	12
MC4	33.00	11½	4¾	10	MC66	39.00	16	4	14
MC56	33.00	12	3	10	MC69	36.00	14	4½	12
MC57	36.00	14	3	12	MC74	37.50	15	4¾	14
MC62	33.00	12	4	10	MC76	39.00	16	5	14

No. 191 Johnson Plastering Trowels

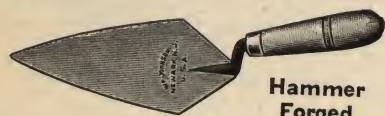


Packed 6 in a box.

Lgth. In.	Per Doz.	Wt. Lb. per Doz.
10	\$11.10	10½
10½	11.90	11
11	12.80	11¼
11½	13.60	11¾
12	15.30	12

No. 182 Pointing Trowels

Packed 6 in a cardboard box.



Hammer Forged

Size In.	Doz.	Size In.	Doz.	Size In.	Doz.	Size In.	Doz.
3	\$6.00	4	\$6.00	5	\$6.00	6	\$6.00
3½	6.00	4½	6.00	5½	6.00	7	7.50

No. 175 Johnson London Pattern Special High-Grade Brick Trowels

Hammer Forged



Packed 6 in a box.

Size Inches	Per Dozen	Weight Pounds per Dozen	Size Inches	Per Dozen	Weight Pounds per Dozen
8	\$12.80	8¼	10½	\$16.80	10½
8½	13.60	8½	11	17.60	10¾
9	14.40	8¾	11½	18.40	11¼
9½	15.20	9	12	19.20	11½
10	16.00	10	...	...	...

No. 110 Rose Brick Trowels

Philadelphia Pattern



Has 6-inch long hardwood handle. Packed 6 in a box. Shipping weight, about 7 pounds.

Length Blade Inches	Per Dozen	Width Blade Inches	Length Blade Inches	Per Dozen	Width Blade Inches
7	\$18.00	4½	11	\$30.00	5½
7½	18.00	4¾	11½	30.00	5½
8	18.00	4¾	12	30.00	5¾
8½	24.00	5½	12½	36.00	5¾
9	24.00	5½	13	36.00	5¾
9½	24.00	5½	13½	36.00	5¾
10	30.00	5¾	14	36.00	5¾
10½	30.00	5¾	...	...	...

No. 113 Round Heel Brick Trowels



Has 6-inch hardwood handle. Blade has a spring like the Philadelphia pattern.

Length Blade Inches	Price per Dozen	Length Blade Inches	Price per Dozen	Length Blade Inches	Price per Dozen
7	\$18.00	9½	\$24.00	12	\$30.00
7½	18.00	10	30.00	12½	36.00
8	18.00	10½	30.00	13	36.00
8½	24.00	11	30.00	13½	36.00
9	24.00	11½	30.00	14	36.00

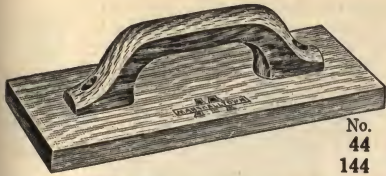
No. 50 Rose Pointing Trowels



Forged from fine tool steel, tempered, ground, polished and secured in the handle. Trowel handle is 4½ inches long. Packed 6 in a box.

Length Blade Inches	Per Dozen	Width Blade Inches	Weight Pounds Per Doz.	Length Blade Inches	Per Dozen	Width Blade Inches	Weight Pounds Per Doz.
3	\$12.00	1¾	3½	5½	\$12.00	2¾	4
3½	12.00	1¾	3¾	6	12.00	2¾	5
4	12.00	2	3¾	6½	16.00	3½	9
4½	12.00	2½	3¾	7	18.00	3¼	10
5	12.00	2¾	4	...	...	...	...

Marshalltown Wood Floats



Made of clear seasoned wood, finished smooth, with smooth wood handle.

Packed 4 in a box.
 No. 44 \$6.00 12x5x $\frac{3}{4}$ 13
 144 6.50 14x4x $\frac{3}{4}$ 14

No. 103 Marshalltown Aluminum Floats



Hard aluminum casting with polished face. Sides, $\frac{7}{8}$ inches high; beveled ends. Wood handle.

Size, 10x3 $\frac{3}{4}$ in.

Packed 4 in a box. Weight per dozen, 12 pounds.

No. 103.....per dozen \$12.00

Marshalltown Plasterers' Paddles



Made of clear, thoroughly seasoned hard wood. 8 inches long, head 3 in. wide, $\frac{3}{4}$ in. thick, and beveled to a working edge. 6 in a box.

No. 336 With Plain Edge.....per dozen \$3.00

No. 337 With Bronze Blade Inserted.....per dozen 4.00

No. 22 Marshalltown Redwood Hawks



Fitted with dove-tailed wedge; detachable handle. Size, 13 $\frac{1}{2}$ x 13 $\frac{1}{2}$ inches.

Packed $\frac{1}{3}$ dozen in a box.

No. 22.....per dozen \$15.00

Marshalltown Aluminum Plasterers' Hawks



Made of 12-gage hard rolled aluminum, with smooth, straight edges; strong flange 3 $\frac{3}{4}$ inches in diameter fastened with four rivets; 5-inch detachable handle; bolt extends all the way through handle and threads into flange. Rounded corners. Supplied with soft rubber callous preventers. Packed $\frac{1}{4}$ dozen in a box.

No.....	0	1	2	3
Per Dozen.....	\$31.00	33.00	34.00	35.00
Size.....inches	12x12	13x13	13 $\frac{1}{2}$ x13 $\frac{1}{2}$	14x14

Marshalltown Plasterers' Darbies



No. 3 Aluminum Bound

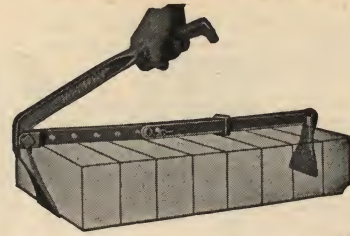
No. 3 made of clear seasoned sugar pine; $\frac{1}{2}$ -inch thick at the center; beveled to $\frac{3}{8}$ -inch at the edges and bound with aluminum; 6-inch rib and 3 $\frac{1}{2}$ -inch handle.

No. 02 is made of clear seasoned redwood, $\frac{1}{2}$ -inch thick; 18-inch rib and 3 $\frac{1}{2}$ -inch handle.

Packed 6 in a box.

No.	Size Inches	Size Rib Inches	Size Handle Inches	Per Dozen
3	44x3 $\frac{3}{8}$	6	3 $\frac{1}{2}$	\$30.00
02	44x3 $\frac{1}{4}$	18	3 $\frac{1}{2}$	9.00

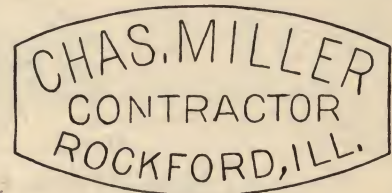
Donley Brick Clamps



This clamp can handle 8 or more bricks at a time, without injuring brick or bruising workman's hands. Clamp is made of malleable iron and stands rough usage. It is easily adjusted by a thumb nut to desired size of brick or number in a load. Picks up and discharges instantly. Lever grip is sure. Approximate shipping weight, 72 pounds per dozen.

Price.....each \$1.75

Cast Brass Cement Brands



Furnished extra deep with proper bevel to insure impression. Average size about 4x8 inches.

Furnished in any standard shape. Prices on special shapes and trade-marks upon application. Approximate weight, 4 pounds.

2 or 3-Line Brands.....each \$15.00

4-Line Brands.....each 20.00

Lansing Patent Steel Hods



No. 747, for Mortar



No. 788, for Brick

An unbreakable, leakproof hod with adjustable handle. Knocked down for shipping.

No.....	747	788
Per Dozen.....	\$36.00	32.00
Inside Measurements.....inches	12x23	7 $\frac{1}{2}$ x23
Weight.....pounds	13	15

Lansing Mortar Mixing Boxes



Box is made of No. 14 gauge blue annealed steel and flanged around a 1 $\frac{1}{4}$ -inch angle iron to support the top. No. 1 box is made of 1 sheet of steel. Handles are out of the way when not in use. Corners are electrically welded.

No.	Width Feet	Length Feet	Depth Inches	Weight Pounds	Each
1	3	6	12	135	\$30.00
2	3 $\frac{1}{2}$	7 $\frac{1}{2}$	12	170	31.50
3	4	11 $\frac{1}{2}$	12	290	52.00

Cement and Sod Tampers

Cast iron bases; extra large wood handles, $2\frac{1}{4}$ inches in diameter and 48 inches long.

Round

No.	Each	Size Base Inches	Weight Pounds
5W	\$1.80	5	15
6W	2.40	6	20
6AW	1.70	6	14
7W	2.50	7	20
7AW	1.30	7	10

Square

6x 6W	\$1.50	6x 6	12
7x 7W	1.80	7 x7	14
8x 8W	1.90	8x 8	18
8x 8AW	1.64	8x 8	14
9x 9W	2.16	9x 9	18
10x10W	2.16	10x10	18
12x12W	3.20	12x12	26
6x 8W	2.10	6x 8	18

Wood Tamper Handles

Weight per dozen, 48 pounds.
Per Dozen..... \$7.00



No. 6W Round



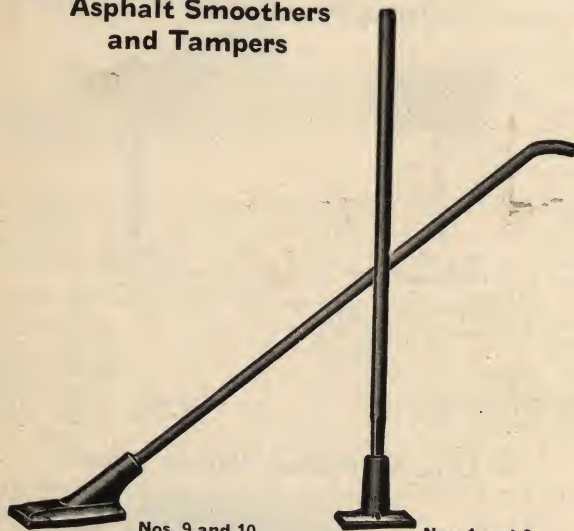
No. 10x10W Square

Style 1 Tampers

A sturdy, concrete tamper consisting of a heavy steel plate with malleable iron socket and 4-foot wood handle.

Base.....inches	8x8	10x10	12x12
Each.....	\$3.00	3.40	4.00
Weight.... pounds	10	13	15

Asphalt Smoothers and Tampers



Nos. 9 and 10

Nos. 1 and 2

Handles are of $1\frac{1}{4}$ -inch steel pipe welded to solid steel bar cast solid in the base. Bases have carefully ground smooth surfaces. Can be heated without injury.

Smoother

Length overall, 6 feet 7 inches.

No.....	9	10
Each.....	\$6.00	7.00
Size Shoe.....inches	$6\frac{1}{2} \times 10\frac{1}{2}$	7×11
Weight.....pounds	45	55

Tampers

Length overall, 4 feet 8 inches.

No.....	0	1	2	3
Each.....	\$4.30	4.00	4.80	5.20
Size Base.....inches	6x6	6x8	6x8	8x8
Weight.....pounds	32	30	37	40

Ideal Roofing Mops

This mop can be made on the job with only a hammer or hatchet. Made any length or size by simply cutting warp the length best suited to the job and then pound staple through holes in mop cup.

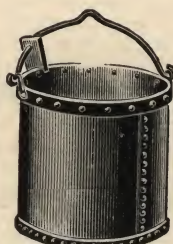


No loss from broken sticks, no cap to burn out as same can be used over and over again.

$1\frac{1}{2}$ -Lb. Mop.....	per dozen	\$12.60
2-Lb. Mop.....	per dozen	15.00
$2\frac{1}{4}$ -Lb. Mop.....	per dozen	15.60

Mop Head Only..	per dozen	5.00
Staples Only.....	per 100	1.50
Mop Yarn Only..	per pound	.40

Mop Pails



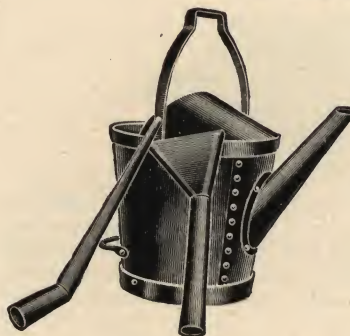
Riveted



Seamed

The No. 1 Riveted Pail is made of annealed steel; Norway iron trimmings; has convex bottom. Capacity, 8 gallons. The No. 2 Seamed Pail is the same as No. 1 except that all joints are double seamed together. Capacity, 8 gallons. No. 1, Riveted.....each \$4.95
No. 2, Seamed.....each 3.30

Pay Off Pails



Made of heavy black steel with all joints closely riveted.

Raised bottom and swing handle.

Top, bottom and hood protected with bands.

Spout welded to body.

Pail Only.....	each	\$5.50
Spouts.....	each	2.00

No. 85 Payoff Pails



This pouring pot applies emulsion in a wide, smooth and neat way. Fitted with a removable wire strainer and an 8-inch adjustable spout. Capacity, 4 gallons.

No. 85.....	each	\$6.00
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Pouring Cans



For filling between brick pavements, expansion joints in newly laid highways, cracks in all ready laid highways, etc. Body rests on cast iron point while in use.

Has controlling rod to instantly stop flow of material being used. To check flow, push controlling rod into iron point. To open, pull up same. Capacity, 2 gallons.

Complete.....each \$3.00
Extra Points Only.....each .50

Dippers



Riveted



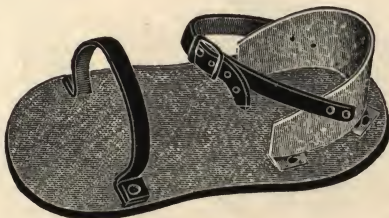
Seamed

The No. 1 Riveted Dipper is made of annealed steel; Norway iron trimmings; has convex bottom and malleable iron socket handle. Capacity, 1¾ gallons.

The No. 2 Seamed Dipper is the same as No. 1 except that all joints are double seamed together. Capacity, 1¾ gallons.

No. 1, Riveted.....each \$2.75
No. 2, Seamed.....each 2.00

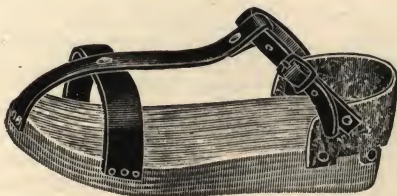
Sandow Flat Sandals



Flat sandals, commonly called fibre sandals, are made from heavy lock stitched canvas belting. They are 7 inches wide and 14 inches long; have heavy galvanized heel plates or counters; well riveted together with substantial leather straps. Weight, per dozen pairs, 44 pounds.

Per Dozen..... \$24.00

Asphalt Wood Sole Sandals

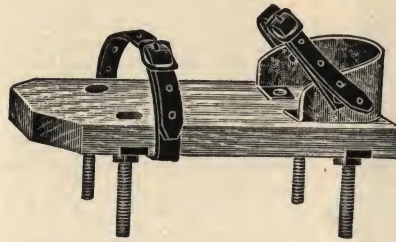


Wood sole sandals are made from high grade wood to stand the heat. They are 4½ inches wide and 13½ inch long, and 2 inches thick at front of heel. They have heavy galvanized iron heel counters 3½ inches high. They are well riveted together with high grade ankle and toe straps.

Weight per dozen pairs 45 pounds.

Wood Sandals.....per dozen pairs \$24.00

Asphalt Spiked Sandals



Spiked sandals are constructed to stand the heaviest usage. They are large in size and stand 4 inches high. They are reinforced underneath to prevent board or wood sole from splitting. Bolts are ½ inch thick. They

have heavy galvanized iron heel plate or counter with good leather straps attached and strong adjustable toe straps.

Weight per dozen pairs 79 pounds.

Spiked Sandals.....per dozen pairs \$50.00

Type C Knee Pads



Style C Knee Pads are large in size and fit well over knee cap. They are made from good chrome or bark tanned leather. They have a heavy hair felt padding and are well riveted together with double straps and buckles.

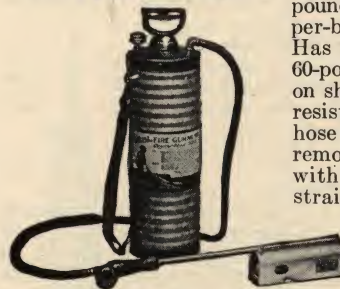
Weight per dozen pairs 18 pounds.

Type C Knee Pads.....per pair \$2.00

No. 99 Aeroil Fire Guns

A kerosene torch for thawing, heating, melting ice and snow, drying concrete for waterproofing, etc.

Has 4-gallon corrugated welded fuel tank, tested at 100 pounds. Tank is made of copper-bearing, galvanized steel. Has 2-inch all brass air pump, 60-pound pressure gauge, snap-on shoulder strap, 7 feet of oil-resisting rubber hose with brass hose nipples, and seamless steel removable coil Aeroil burner with bronze combination valve-strainer.



Average oil consumption, 1 gph. Produces flame up to 3 inches in diam. x 30

inches long. Temperature of flame, 2000°F.

No. 99, Complete, Ship. Wt. 21 Lb.....each \$20.00
Burner and Hose Only, Ship. Wt. 8 Lb.....each 12.50

Aeroil Thawing Torches

Used to thaw frozen sand, gravel, coal, coke or stone in cars, for melting ice around structural work, ice and snow out of forms or pockets, thawing frost out of the ground for laying conduits, etc.

Can be used as a salamander for heating interiors. No danger of setting fire to wooden forms as the flame can be directed in such a manner that only the hot air preceding the flame comes in contact with the wood.

No. 9

Includes a 3-gallon pressure tank; one 6-foot length oil hose; Aeroil Torch, with needle valve, strainer and connections. Weight, 35 pounds.

No. 9.....each \$45.00

No. 10

Includes one 5-gallon pressure tank; one 10-foot length oil hose; Aeroil torch, flame 3½x30 inches; with needle valve, strainer and connections.

Weight, 45 pounds.

No. 10.....each \$55.00





Without Hood

Blazer Salamanders

Hand riveted. No danger of coming apart from over-heating. It has a large and strong corrugated ash pan and a heavy cast iron grate. Substantially designed for hard service.

Diameter of body, 16¼ in.; height of body, 15 inches; diameter of ash pan, 24 inches; height over all, 28½ inches.

*Price, 16-gauge...each	\$5.00
* " 18 "..... "	4.50
" Grates..... "	1.25
" Hoods..... "	3.50

*Does not include hood and grate.

No. 87 Dietz Highway Flare Torches

Burns Kerosene or Light Fuel Oil



A spherical torch of 3 quarts capacity that burns for over 24 hours. Made of 20 gage steel with double seamed joint. Bottom weighted. Burner made of heavy steel.

The carrying ring is clinched on the burner and provides leverage on the burner screw.

Black enamel finish.

Height, 8 inches. Wick, ¾x18 inches.

Packed 3 in a carton; shipping weight, 18 pounds.

No. 87 Torch.....	per dozen	\$16.00
Wicks.....	per dozen	1.30

Toledo Torches



This torch rights itself from any position; uses kerosene; has a capacity of 3 quarts; is equipped with the Economy Burner and burns up to 48 hours on 1 filling; finished in high luster black, baked enamel; packed 3 per box.

Leader

Made from 20-gauge steel; halves joined together with leak-proof double seamed joint. Weight, 5½ pounds.

Each.....	\$1.50
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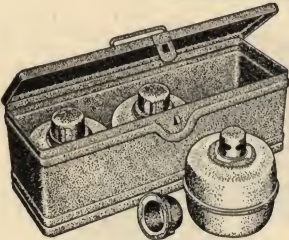
Champion

Made of 14-gauge steel and is welded at the seam. Weight, 6½ pounds.

Each.....	\$2.00
Extra Wicks.....	per dozen 1.80

Toledo Truck Flares

No. 33 Set



Composed of three No. 3 flares, made of 18 gage steel, welded joint. Kerosene capacity of each flare, 48 oz. Burning time up to 16 hours per filling. Bears Underwriters' Laboratories label. Packed in heavy steel box with convenient handle for carrying. Weight, 14 lb.

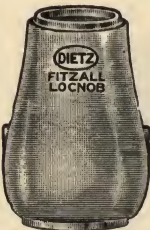
Series 5

Same as No. 3 flare except made of 20 gage steel, double seamed joint. Packed in a heavy steel case.

No.	Description	Wt. Lb.
5	Single Flare, with Oil-Tight Sealing Cap.....	2
52	2-Flare Kit, 1 Steel Case and 2 No. 5 Flares.....	9
53	3-Flare Kit, 1 Steel Case and 3 No. 5 Flares.....	13

Prices upon application.

Dietz Fitzall Loc-Nob Lantern Globes



Fits all Dietz lanterns that formerly required Blizzard cold blast or Fitzall No. 0 globes. It simplifies stock and adds the selling feature of Loc-Nob globe protection to various Dietz lanterns formerly without it.

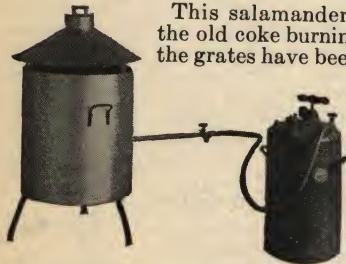
It is now standard equipment on the following Dietz lanterns: Monarch, Hy-Lo, No. 2 Blizzard, Buckeye dash; also Dietz Mill, Fire and Wall lanterns.

Height, 6⅞ inches. Diameter bottom, 3⅞ inches. Diameter top, 2⅞ inches.

Three dozen in a case; shipping weight 36 pounds.

White.....	per dozen	\$2.25
Genuine Ruby, Blue or Green.....	per dozen	4.75

Aeroil Smokeless Salamanders



This salamander is built along the lines of the old coke burning salamander, except that the grates have been removed and replaced by the Aeroil Smokeless Kerosene Burner, producing a red hot fire within five minutes after lighting the burner.

Tank of heavy welded steel, galvanized inside and out, equipped with built-in hand air pump, and pressure gauge. Furnished with 6 feet of special oil hose and a combination needle valve-oil strainer.

Specifications

No.	1A	2A	3A	4A	5A
Heating Chamber—Diameter in.	16	20	25	25	25
Overall Height..... in.	36	41½	49	49	49
Average Fuel Consumption per Hour per Burner..... gal.	¾	1	2	2	4
Shipping Weight..... lb.	74	111	166	181	272

Prices

No. 1A, Complete with 5-Gal. Lightweight Tank.ea.	\$43.00
No. 2A, Complete with 10-Gal. Heavy Duty Tank.ea.	65.00
No. 3A, Complete with 15-Gal. Heavy Duty Tank.ea.	73.00
No. 4A, Complete with 20-Gal. Heavy Duty Tank.ea.	78.00
No. 5A, Complete Double Salamander Unit—2 Salamanders, 2 Hose and one 20-Gal. Heavy Duty Tank.ea.	\$110.00

Salamander with Burner Only

No.	1A	2A	3A
Each.....	\$30.00	32.00	35.00

Salamander, Burner and Valve Only

No.	1A	2A	3A
Each.....	\$20.00	22.50	25.00

Burner Outfits Only

For coke burning salamanders. Includes burner, hose and tank only.			
No.	1A	2A	3A
Each	\$34.00	50.00	55.00

Tarpaulin



Made of good weight duck. Thoroughly waterproofed by best known treatment.

Waterproofing goes all the way through the material—not just on the surface. Adds strength and life to the fabric.

Prices upon application.

Dietz Streamline Monarch Lanterns

Hot Blast - For Kerosene

All drawn parts are made from cold rolled steel, coated thoroughly with Grade A charcoal bright tin, fitted with terne plate bottoms.

Fitted with No. 411 steel burner, and Dietz Fitzall Loc-Nob globe.

Packed 12 in a package.

Height.....inches	13 1/2
With White Globes...per doz.	\$14.00
With Solid Ruby Globes.....per doz.	16.50
Light.....c.p.	4
Wick.....inches	5/8
Capacity.....ounces	16
Burns for.....hours	30

Dietz Streamline Little Wizard Lanterns

Cold Blast—Balanced Draft—For Kerosene

Fitted with Dietz Little Wizard Loc-Nob globe and specially braced lift-guide. All bright tin.

Has a new thru-tube bail attachment, including automatic support for holding bail upright, when desired.

Packed 12 in a package.

Height Over All.....in.	11 1/2
With White Globe.....per doz.	\$15.50
With Ruby, Blue, or Green Globe.....per doz.	18.00
Volume of Light by Test....cp.	6
Size of Wick.....in.	5/8
Fount Capacity.....hr.	30
Kerosene Capacity.....oz.	16
Winglock Steel Burner No.....	201

No. 2 Dietz D-Lite Streamline Lanterns

Cold Blast—For Kerosene

With D-Lite Loc-Nob globe. Has wide openings into which the hand may easily be inserted. Dietz braced lift guide and reinforced tubes.

Height Over All.....in.	13 1/4
Volume of Light by Test.c.p.	10
Size of Wick.....in.	1
Fount Capacity.....hrs.	45
Patented Steel Burner....no.	262

With White Globes

Bright Tin.....per doz.	\$21.00
Brass Fount & Top.per doz.	30.00

With Ruby, Blue, or Green Globes

Bright Tin.....per doz.	\$23.50
Brass Fount & Top.per doz.	32.50

Dietz Lantern Wicks



Regular soft wick.

Vesta 1/2-inch, green stripe

No. 1 Width 5/8-inch, red stripe.....per gross	1.08
No. 2 Width 1-inch, red stripe.....per gross	1.56
No. 3 Width 1 1/2-inch, white.....per gross	4.00

Dietz Little Wizard Loc-Nob Lantern Globes



Will fit Little Wizard, Little Giant and Roadster Wagon lanterns. Height, 3 1/8 inches. Diameter top, 3 1/4 inches. Diameter bottom, 2 1/8 inches. Three dozen in a case; shipping weight, 24 pounds.

White.....per doz.	\$2.25
Red, Blue or Green.....per doz.	4.75



No. 900 Empire Focal Ray Electric Lanterns

For use around factories and mills by watchmen and repairmen, around trucks, trailers, etc.

The concentrated 1000-foot beam can be changed to a bright flood light by a slight turn of the lens head. Can be swung in any direction with the all-position pivot. Easy grip, reed handle. Heavily plated throughout with nickel and chromium. Lens head and cap polished chromium. Body enamelled in maroon color. Heavy duty construction.

Fool-proof, waterproof switch. Uses standard Mazda No. 502, 5-volt bulb. Spare bulb can be carried inside of lantern cover.

Operated on standard 6-volt lantern battery, size 2 3/4 x 2 3/4 x 3 3/4 inches.

Extra large, parabolic reflector—highly polished, non-tarnishing weathertight glass lens, easily removed.

Packed individually. Weight, 1 3/4 pounds.

No. 900.....each \$2.95

No. 2 Carbic Flood Lights



Used where a large volume of illumination is required. Extremely rugged in construction. Has 3 simple parts. Can be used for intermittent service without loss of gas, as generation takes place only as required. After-generation is eliminated.

The indestructible, all metal burner is wind, rain, and weatherproof.

Charge, 1 to 4 cakes of No. 20 Carbic processed carbide.

Water required, 7 3/4 gallons. Candle power, 8000.

Height reflector, 78 inches. Diameter at base, 14 inches. Diameter of reflector, 13 inches. Burner No. 25. Burns 12 hours.

Weight empty, 44 pounds. Weight charged, 119 pounds. Shipping weight, 55 pounds.

No. 2.....each \$48.00

No. 20 Carbic Processed Carbide Cakes



Can be used in Carbic lights Numbers 2 and 3 and in the CMP-2 generator.

Made from high grade Carbic processed calcium carbide, treated and compressed into briquet form by special process.

Diameter cake 4 inches; height 3 inches; weight 2 1/2 pounds.

Packed 40 cakes in sheet steel drum.

Shipping weight 107 pounds.

No. 20.....per drum \$5.35

Drag Line Chain

Either manganese or special steel chain can be furnished for any make of drag line buckets.

Tell us what you need. Prices and complete information will be promptly sent to you.

No. 30 Warwood Adze Eye Railroad or Clay Picks



Black japan finish.

Weight.....pounds	5	6	7	8	9	10
No. 30.....per dozen	\$13.44	14.16	14.64	16.80	18.96	20.64

No. A-30 Warwood Railroad Picks



Solid steel, hammer forged, tempered, and drawn to standard hardness.

ness. Ground, polished, and painted blue.						
6. Packed 2 dozen in a case.						
Weight.....pounds	5	6	7	8		
No. A-30.....per dozen	\$17.76	18.48	18.96	21.12		
Length.....inches	21	23	25	26		

No. A-2 Warwood Pick Mattocks



Solid steel hammer forged, tempered, and drawn to standard hardness.

Weight.....pounds	5	6
No. A-2.....per dozen	\$16.08	17.52
Blade Width.....inches	3½	4
Pick Length.....inches	9	10

No. A-1 Warwood Cutter Mattocks



Solid steel, hammer forged, tempered, and drawn to standard hardness. Ground, polished, and painted blue.

Weight, Lbs.	Per Dozen	Packed 2 dozen in a case.	Width, Blade, In.	Lgth. Cutter, In.
5	\$15.36		3½	4¾
6	16.32		4	5¼

No. A-20 Warwood Grub Hoes



Solid steel, hammer forged, tempered, and drawn to standard hardness. Ground, polished, and painted blue. Adze eye No. 8.

Packed 2 dozen in a case.

Weight.....pounds	3½	4	4½
No. A-20.....per dozen	\$18.48	18.72	19.44
Blade Width.....inches	3¾	4	4¼
Length.....inches	10¾	11¼	11½

No. 24 Warwood Clay or Caisson Hoes



Made of solid steel, hammer forged, tempered and drawn to standard hardness. Eye for pick handle.

Blade 4x11¼ inches. Weight, 6 to 7 pounds.	
No. 24.....per dozen	\$20.88

No. 7 Double Eye Asphalt Mattocks



Has double or reversible eye. Handle enters eye in either direction. Finished in black japan.

Width blade, 3 inches. Length, 20 inches.

No. 7, Weight 10 Pounds.....per dozen	\$40.80
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Vulcan Frost Wedges Wedge or Square Point



Wedge Point



Square Point

Made from steel in lengths from 10 to 20 inches. Furnished in wedge or square point as desired.

Price.....per pound	\$2.5
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Bull Point Holders

Made from ½-inch round steel. Length 30 inches.

For 1¼-Inch Bull Points.....each	\$2.00
For 1½-Inch Bull Points.....each	2.00

Asphalt Cutters

Hand forged from 1¾-inch square tool steel. Weight 8 pounds; length 10 inches. Cutting edge, approximately 4½ inches.

Cutters.....each	\$5.00
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Asphalt Cutter Holders

Made from ⅝-inch round steel. Length, 42 inches.

Cutter Holders.....each	\$3.00
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No. 9 Badger Never-Slip Railway Car Movers



Double leverage type, having regular pinch-bar action combined with a cam or elongating-toggle thrust, imparting rotary motion to car wheel and providing push enough to move loaded cars of largest carrying capacity. Certified malleable iron castings. Selected Wisconsin rock maple handle, straight grained and turned oversize.

Slip-proof spurs consist of two pieces of special tool steel set at the right angle to engage soft corners of crown of rail.

Length over all, 70 inches.

Weight, 18 pounds.

No. 9.....each	\$8.00
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Parts for No. 9 Badger Car Movers



No.	Description	Each
8	Socket Comp., with No. 7 Toggle Attached and No. 23 Bolt.....	\$3.00
8	Socket Only, with No. 23 Bolt and No. 24 Rivet.....	2.00
7	Toggle or Cam with No. 24 Rivet.....	1.00
16	Spur Plate or Clamp with No. 21 Bolt.....	.50
20	Second Growth Maple Handle.....	2.00
21	Bolt for Attaching No. 16 Plate.....	.10
22	Slip-Proof Dbl. Spurs..	.50
23	Bolt for Attaching No. 9 Shoe.....	.20
24	Rivet for Cam No. 7....	.10
25	Hard Steel Toe Rivet..	.20

No.	Description	Each
9	Shoe Comp. with Spurs, Plate, Bolts, Rivets..	\$3.00
9	Shoe Only, with Toe Rivet and No. 23 Bolt	2.00

K & J Concrete Wheelbarrows



Has plain bearing steel wheel, 16 $\frac{1}{4}$ inches in diameter.

Trays, legs, braces and wheel are black; handles, red.

No.	40	80
Each.....	\$6.50	7.25
Struck Capacity.....cubic feet	3	3 $\frac{1}{2}$
Heaped Capacity.....cubic feet	4 $\frac{1}{4}$	5 $\frac{1}{4}$
Tray Length.....inches	39 $\frac{1}{4}$	40
Tray Width.....inches	25 $\frac{1}{4}$	25 $\frac{3}{4}$
Tray Depth, Front Slant.....inches	18 $\frac{1}{4}$	19 $\frac{1}{4}$
Tray Depth, Back Slant.....inches	8	9 $\frac{1}{4}$
Weight.....pounds	72	75

K. & J. Concrete Wheelbarrows



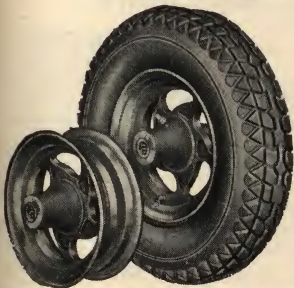
Has capacity for two cubic feet water measure or four cubic feet dirt. Front of tray forms a pouring channel and in connection with the rounded steel wheel guard, makes the barrow

unusually handy for dumping forward into molds.

Length, 38 $\frac{1}{2}$ inches. Width, 24 $\frac{1}{2}$ inches. Depth at front, 16 inches. Depth at back, 7 $\frac{1}{4}$ inches. Approximate weight, 73 pounds each.

Each.....	\$7.25
Extra Tray.....each	5.00
Extra Wheel.....each	1.50
Extra Frame—Barrow Less Tray.....each	3.50

K. & J. Pneumatic Tired Wheelbarrow Wheels

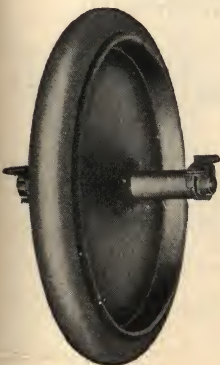


This is a drop center wheel built similar to an automobile tire, tube and wheel; and is furnished with either a 2-ply or 4-ply tire with an inner tube. It is furnished with either plain, ball or roller bearings. The size of the tire is 4.00x8 inches.

Will not cut turf, mar floors or sidewalks; will not sink into soft spots. Mounts grass slopes without planking; moves easily over rough ground. All wheelbarrows made by The Case Crane & Kilbourne Jacobs Co. can be furnished with this pneumatic tired wheel. Prices on application.

ing; moves easily over rough ground. All wheelbarrows made by The Case Crane & Kilbourne Jacobs Co. can be furnished with this pneumatic tired wheel. Prices on application.

No. 12 Sterling Rubber Tire Wheels



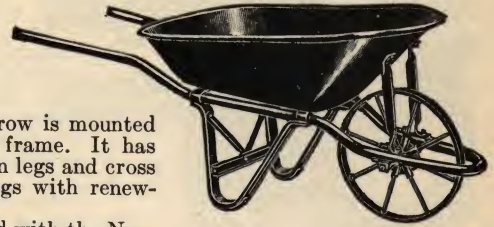
An all-welded, double disc wheel, with molded rubber tire. Equipped with the standard Sterling pre-lubricated bearings and the standard axle and bracket construction.

Popular on construction jobs such as roofing and floor work. Also used in buildings where elimination of noise or saving of wear on floors is important.

Diameter, 16 inches. Tire width, 1 $\frac{3}{4}$ inches. Tire thickness, 1 $\frac{1}{2}$ inches. weight, 17 pounds.

No. 12..... each \$9.00

No. 50 Mortar and Concrete Wheelbarrows



This barrow is mounted on tubular frame. It has channel iron legs and cross braces. Legs with renewable shoes.

Furnished with the Never-Break wheel No. 6, 16 inches in diameter.

Size of tray, top, 25 $\frac{1}{2}$ inches wide by 39 $\frac{1}{2}$ inches long; vertical depth at handles, 7 $\frac{1}{4}$ inches; at wheel, 10 $\frac{1}{4}$ inches.

Capacity, 3 cubic feet of wet concrete.

Weight, per dozen, 852 pounds.

No. 50..... per dozen

No. 64 Bull Frog Mortar and Concrete Barrows



Steel tray. Extension handles connected with angle iron that acts as wheel guard for forward dumping.

Tray elevated in front with wooden

risers bolted to frame. Equipped with No. 6 Never Break Wheel; renewable iron shoes.

Size handles 1 $\frac{3}{4}$ x2 $\frac{1}{4}$ x60 inches; length top of tray 39 $\frac{1}{2}$ inches, width 25 $\frac{1}{2}$ inches; depth tray at wheel 10 $\frac{1}{4}$ inches, at handles, 7 $\frac{1}{4}$ inches. Diameter wheel 16 inches; capacity, struck, 3 cubic feet; weight 66 pounds.

No. 64.....each

No. 52 Bull Frog Special Coal Barrows With Balloon Tires



For moving coal from truck to basement window.

Tray: Length, 46 in., width at handles, 23 $\frac{1}{2}$ in., at nose, 17 $\frac{1}{2}$ in., depth 11 $\frac{1}{2}$ in. Diameter steel wheel, 16 in., tire, 1 $\frac{3}{4}$ x3 $\frac{3}{8}$ in. Capacity, 6 cubic feet. Holds 300 pounds coal. Double front braces.

Two-ply pneumatic tired wheel size, 16x4, extra price.

Can be furnished with double bottom at no additional cost.

No. 52.....per dozen

Sterling Standard Wheelbarrows



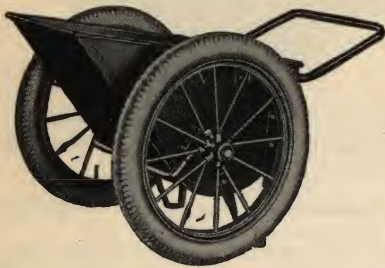
Narrow and deep, for wheeling concrete, etc. Capacities are exactly accurate.

Top of tray reinforced by $\frac{1}{32}$ -inch rod.

Handles clear hard maple; legs, heavy channel, V braced and riveted, equipped with shoes. Self-lubricating wheel, 16-inch diameter, $\frac{1}{2}$ -inch face.

No.	Each	Struck Capacity Cu. Ft.	DIMENSIONS, INCHES			Tray Gauge No.	Net Wt. Lbs.
			Length	Width	Height		
S-17	\$10.70	3	58 $\frac{1}{2}$	25	27 $\frac{1}{2}$	16	74 $\frac{1}{4}$
S-18	11.09	3 $\frac{1}{2}$	58 $\frac{1}{2}$	26	28 $\frac{3}{4}$	16	80
S-19	11.40	4	58 $\frac{1}{2}$	27	30	16	81

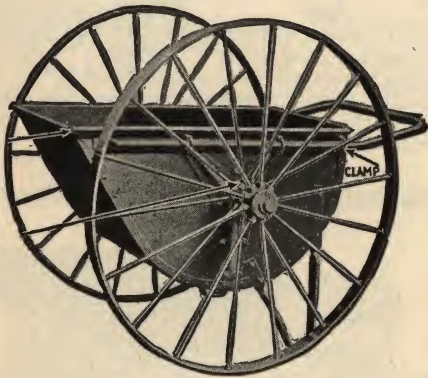
No. 10 Sterling Concrete Carts
Capacity, 6 Cubic Feet



Tray is made of 14-gage steel, all welded construction. Has a continuous 1/2-inch diameter butt-welded rod in top edge.
Handles are attached by means of clamps.
Axle is one piece bent underneath

tray and up the sides. Made of alloy steel, heat treated after forging. Axle diameter is 1 1/2 inches.
Wheels are equipped with 30x3 1/2 inch double tube tires having an outside diameter of 30 inches. (5.00x21 inch tires having an outside diameter of 31 inches can be furnished when specified.) Tread of wheels, 30 inches. Plain or roller bearings optional.
Can be furnished with or without dumping rockers.
Length, 51 inches; width, 37 inches; height, 31 inches; level capacity, 6 cubic feet; weight, 190 pounds.
Price upon application.

No. 6 Sterling Concrete Carts



This cart is designed for unusual strength, durability and ease of wheeling.
Note the unique manner by which the tray is re-enforced with a solid continuous 1/2-inch rod. This method prevents tray from breaking at edge or corners.
The pipe which forms the handle extends full length of cart and is clamped to the tray. This method of re-enforcement gives permanent protection to the tray sides and is guaranteed to keep the same in shape and true alignment.
These clamps strengthen the handle and eliminate breakage caused by bolt holes.
Grease cups assure ample lubrication.
Tray is 12-gauge steel; wheels, 42x2 1/2x6 inches; axle, 1 3/8-inch diameter; handle, 1-inch pipe.

No.	Width Over All Inches	Length Over All Inches	Height Over All Inches	Capacity Cubic Feet	Weight Pounds	Each
6	39	51 1/2	42	6	265	\$44.24

True Temper Sidewalk Cleaners



Heavy blade, size 7x6 inches. Length of handle, 4 1/2 feet.

No.	Socket Pattern OSC	Shank Pattern, Plain Ferrules SC
Per Dozen		
Right Repair Handle No.	777	774

Iwan Post Hole and Well Augers

A 1-inch standard pipe is used for the 12-inch and larger sizes, 3/4-inch pipe for 10-inch and smaller sizes.



Size In.	Each	Lgth. Feet	Wt. Lbs.
2	\$2.33	3 3/4	5 1/2
3	2.33	4	6 1/2
4	2.33	4	7
5	2.33	4	7 1/2
6	2.33	4	8
7	2.50	4	8 1/2
8	2.50	4	9
9	2.67	4	9 1/2
10	3.00	4	11
12	8.00	5 1/2	22
14	10.00	5 1/2	25
16	12.00	5 1/2	28

Extra for Blackburn extension handle, \$7.00.

Hercules Post Hole Diggers



High carbon steel blades, 9 by 6 1/2 inches. Heavy second growth ash handles, 4 feet long. Weight, 117 pounds.
Per Dozen..... \$24.00

Vaughan Post Hole Augers

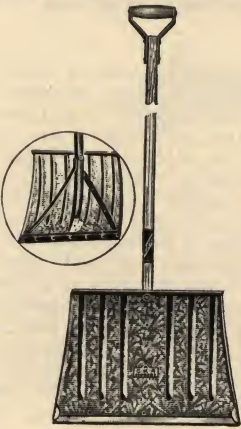


Tubular iron handle, malleable frame, forged steel blades.
Made in sizes 4, 5, 6, 7, 8 and 9 inches.

Complete with Handle.....per doz. \$18.00

Little Giant Galvanized Snow Shovels

Large D Handle



Ribbed galvanized blade. Hardwood handle extending to bottom of blade. Handle is braced to shovel.
Length overall, 49 inches.

No.	017	021
Per Dozen	\$15.00	16.00
Size Blade	17x16	21x16
Wt. per Doz.	58 lb.	60 lb.

Packed 1/4 dozen in a bundle.

No. 218 Little Giant Spring Steel Snow Shovels



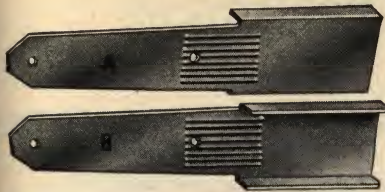
A strong, flexible and light shovel. The spring steel blade, 18x15 inches, is of extra high quality.

The hardwood handle is fastened on the back of the blade by means of a heavy socket securely riveted to the blade. Has extra large grip.

Packed 3 to a bundle.

Weight per dozen, 70 pounds.

No. 218.....per dozen

Wood's I-Beam Shovel Handle Construction**I-Beams**

The closed back shovel combines the features of the welded strap, the hollow back and the solid shank shovels, and overcomes the disadvantages of each. It has a smooth blade, front and back, a resilient shank that is heat-treated. It has the lift or bend of a plain back shovel and lightness of a hol-

low back shovel without the open space. It has a tapered socket.

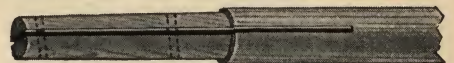
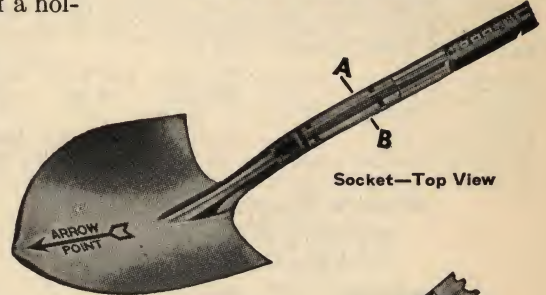
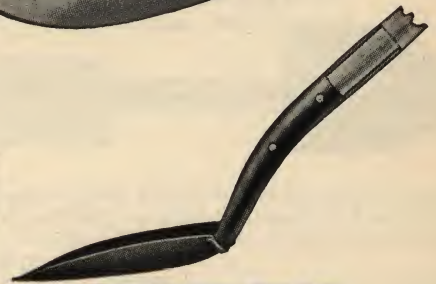
The danger section in shovels is the section where the wood must stand the greatest strain from prying and the greatest shock from striking hard materials when shoveling; 65 per cent of all breaks in shovel handles occur in the section just above the socket.

Two steel members have been devised, drilled for rivets, that can easily be inserted in the handle of the shovel. Each member consists of half an I-beam. Laid back-to-back, they combine to form the familiar I-beam pattern that is so important in construction work.

The handle is first slotted to permit the insertion of the two members of the I-beam. Rivet holes are drilled in the handle to coincide with the holes in the I-beam members and in the steel socket.

The two members of the I-beam are inserted in the slot in the handle and are then ready to be inserted in the socket. The socket will enclose the lower part of the two members up to the part where they flange out to form the I-beam. The socket, I-beam members, and handle are then riveted together to form a unit that will remain tight and firm under all weather conditions.

I-Beam Is Available on All Wood's Closed Back and Hollow Back Shovels with the Exception of Grade C Piqua Brand Shovels

**Shaft—Top View****Shaft with I-Beam Inserted****Socket—Top View****Final Assembly—Side View****Wood's Square Point Shovels**

**Stuart Brand—Closed Back
I-Beam Handle—Moly D Grip**



Blade, 15 gage, grade B, heat treated; black blade and polished socket. Turned shoulders. X grade handle, sanded and waxed, length, 26½ inches.

No.	2B2CB	2B3CB	2B4CB
Per Dozen	\$21.00	21.80	22.60
Size No.	2	3	4
Size Blade, inches	9½x11¾	10x12¼	10¼x12¾
Weight per Dozen, pounds	54-56	56-58	58-60

Wood's Round Point Shovels

**Stuart Brand—Closed Back
I-Beam Handle—Moly D Grip**



Blade, 15 gage, grade B, heat treated; black blade and polished socket. Turned shoulders. X grade handle, sanded and waxed, length, 26½ inches.

No.	3B2CB	3B3CB	3B4CB
Per Dozen	\$21.00	21.80	22.60
Size No.	2	3	4
Size Blade, inches	9x11¾	9¼x12¼	9¾x12¾
Weight per Dozen, pounds	51-53	53-55	55-57

Wood's Square Point Shovels

**Big Fist Brand—Closed Back
I-Beam Handle—Moly D Grip**



Blade, 14 gage, alloy grade, heat treated; black blade and polished socket. Turned shoulders. XX grade handle, sanded and waxed, length, 26½ inches.

No.	2BF2CB	2BF3CB	2BF4CB
Per Dozen	\$29.00	29.80	30.60
Size No.	2	3	4
Size Blade, inches	9½x11¾	10x12¼	10¼x12¾
Weight per Dozen, pounds	58-60	60-62	62-64

Wood's Round Point Shovels

**Big Fist Brand—Closed Back
I-Beam Handle—Moly D Grip**



Blade, 14 gage, alloy grade, heat treated; black blade and polished socket. Turned shoulders. XX grade handle, sanded and waxed, length, 26½ inches.

No.	3BF2CB	3BF3CB	3BF4CB
Per Dozen	\$29.00	29.80	30.60
Size No.	2	3	4
Size Blade, inches	9x11¾	9¼x12¼	9¾x12¾
Weight per Dozen, pounds	54-56	56-58	58-60

Wood's Square Point Shovels**Big Fist Brand—Closed Back
I-Beam Long Handle**

Blade, 14 gage, alloy grade, heat treated; black blade and polished socket. Turned shoulders. XX grade handle, sanded and waxed, length, 47 inches.

No.....	4BF2CB	4BF3CB	4BF4CB
Per Dozen.....	\$29.00	29.80	30.60
Size No.....	2	3	4
Size Blade.....inches	9½x11¾	10x12¼	10¼x12¾
Weight per Dozen...pounds	61-63	63-64	64-66

Wood's Round Point Shovels**Big Fist Brand—Closed Back
I-Beam Long Handle**

Blade, 14 gage, alloy grade, heat treated; black blade and polished socket. Turned shoulders. XX grade handle, sanded and waxed, length, 47 inches.

No.....	5BF2CB	5BF3CB	5BF4CB
Per Dozen.....	\$29.00	29.80	30.60
Size No.....	2	3	4
Size Blade.....inches	9x11¾	9¼x12¼	9¾x12¾
Weight per Dozen...pounds	58-60	60-62	62-64

Wood's Square Point Shovels**Stuart Brand—Closed Back
I-Beam Long Handle**

Blade, 15 gage, grade B, heat treated; black blade and polished socket. Turned shoulders. X grade handle, sanded and waxed, length, 47 inches.

No.....	4B2CB	4B3CB	4B4CB
Per Dozen.....	\$21.00	21.80	22.60
Size No.....	2	3	4
Size Blade.....inches	9½x11¾	10x12¼	10¼x12¾
Weight per Dozen...pounds	57-59	59-61	61-63

Wood's Round Point Shovels**Stuart Brand—Closed Back
I-Beam Long Handle**

Blade, 15 gage, grade B, heat treated; black blade and polished socket. Turned shoulders. X grade handle, sanded and waxed, length, 47 inches.

No.....	5B2CB	5B3CB	5B4CB
Per Dozen.....	\$21.00	21.80	22.60
Size No.....	2	3	4
Size Blade.....inches	9x11¾	9¼x12¼	9¾x12¾
Weight per Dozen...pounds	53-55	55-57	57-59

Wood's Round Point Shovels**Wilson Brand—Tapered Socket
I-Beam Long Handle**

Blade, 15 gage, heat treated; black blade and polished socket. Turned shoulders. No. 1 grade handle, sanded and waxed, length, 47 inches.

No.....	5C2TS	5C3TS	5C4TS	5C6TS
Per Dozen.....	\$16.80	17.60	18.40	20.00
Size No.....	2	3	4	6
Size Blade.....in.	9x12	9½x12½	10x13	10¾x14
Wt. per Dozen.....lb.	.....	.....	.....	.....

Wood's Square Point Shovels**Wilson Brand—Tapered Socket
I-Beam Handle—Moly D Grip**

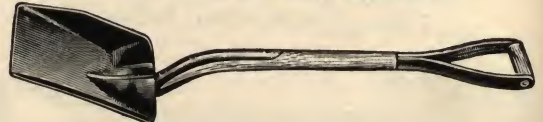
Blade, 15 gage, heat treated; black blade and polished socket. Turned shoulders. No. 1 grade handle, sanded and waxed, length, 61½ inches.

No.....	2C2TS	2C3TS	2C4TS	2C6TS
Per Dozen.....	\$16.80	17.60	18.40	20.00
Size No.....	2	3	4	6
Size Blade.....in.	9½x12	10x12½	10½x13	11x14
Wt. per Dozen.....lb.	.....	.....	.....	.....

Wood's Moulders' Shovels**Big Fist Brand—Closed Back
I-Beam Handle—Wood D Grip**

Blade, 14 gage, alloy grade, heat treated; polished blade and polished socket. XX grade handle, sanded and waxed, length, 26½ inches.

No.....	BF90CB
Per Dozen.....	\$32.20
Size No.....	2
Size Blade.....inches	10x12
Weight per Dozen...pounds	57-59

No. 108 Brick or Sewer Shovels**Armor D Handle—Black Finish**

Plain back pattern, special point blade, 8½x10¼ inches, with selected white ash handle, sanded and waxed.

Packed 6 in a bundle.

Weight per dozen, 58 to 61 pounds.

GENUINE O. AMES BRAND: ABW grade. Has 14-gage alloy steel blade and selected XX grade handle.

Per Dozen..... \$29.00

FALLS CITY BRAND: C grade. Has 15-gage high carbon steel blade and No. 1 grade handle.

Per Dozen..... \$19.00

**No. 200 Ames Pony Featherweight
Armor D Handle Shovels**

One-Piece Solid Shank, Square Point, Polished



Equipped with shock band.

Size No.....	2	
No. 200.....	per dozen	\$24.20
Blade Dimensions.....	inches	9 $\frac{3}{4}$ x12
Length Handle.....	inches	27
Approximate Weight per Dozen.....	pounds	50

**No. 202 Ames Pony Featherweight Armor
D Handle Shovels**

One-Piece Solid Shank, Round Point, Polished



Equipped with shock band.

Size No.....	2	3
No. 202.....	per dozen	\$24.20 25.00
Blade Dimensions.....	inches	8 $\frac{7}{8}$ x11 $\frac{1}{2}$ 9x13
Length Handle.....	inches	27 27
Approximate Weight per Dozen.....	pounds	48 50

For black blades, deduct \$3.20 per dozen from above prices.

**No. 201 Ames Pony Featherweight Knob
Handle Shovels**

Solid Shank, Square Point, Polished
Heat Treated



Equipped with shock band.

Size No.....	2	
No. 201.....	per dozen	\$24.20
Blade Dimensions.....	inches	9 $\frac{3}{4}$ x12
Length Handle.....	inches	48
Approximate Weight per Dozen.....	pounds	50

**No. 203 Ames Pony Featherweight Knob
Long Handle Shovels**

Round Point, One-Piece
Solid Shank, Polished Heat Treated



Equipped with shock band.

Size No.....	2	
No. 203.....	per dozen	\$24.20
Blade Dimensions.....	inches	8 $\frac{7}{8}$ x11 $\frac{1}{2}$
Approximate Weight per Dozen.....	pounds	48

Black blades can be furnished at slight reduction.

Wood's Drain Spades

Stuart Brand—Closed Back

I-Beam Handle—Moly D Grip



Blade, 14 gage, grade B, heat treated; polished blade and polished strap. Width at point, 4 $\frac{3}{4}$ inches; at top of blade, 5 $\frac{3}{4}$ inches. X grade handle, sanded and waxed, length, 26 $\frac{1}{2}$ inches.

No.....	B701CB	B702CB	B703CB	B704CB
Per Dozen.....	\$26.70	27.50	28.30	29.10
Size Blade.....inches	14	16	18	20
Weight per Dozen.....pounds	55-57	57-59	59-61	61-63

Wood's Post Spades

Stuart Brand—Closed Back

I-Beam Handle—Moly D Grip



Blade, 14 gage, grade B, heat treated; polished blade and polished strap. Width at point, 6 inches; at top of blade, 5 $\frac{3}{4}$ inches. X grade handle, sanded and waxed, length, 26 $\frac{1}{2}$ inches.

No.....	B721CB	B722CB	B723CB	B724CB
Per Dozen.....	\$26.70	27.50	28.30	29.10
Size Blade.....in.	14	16	18	20
Wt. per Dozen.lb.	59-61	61-63	63-65	65-67

Wood's Square Point Spades

Stuart Brand—Closed Back

I-Beam Handle—Moly D Grip



Blade, 13 gage, grade B, heat treated; black blade and polished strap. Turned steps. X grade handle, sanded and waxed, length, 26 $\frac{1}{2}$ inches.

No.....	6B2CB
Per Dozen.....	\$21.00
Size No.....	2
Size Blade.....inches	7 $\frac{1}{4}$ x12
Weight per Dozen.....pounds	66-68

Wood's Square Point Spades

Stuart Brand—Closed Back

I-Beam Long Handle



Blade, 13 gage, grade B, heat treated; black blade and polished strap. Turned step. X grade handle, sanded and waxed, length, 50 inches.

No.....	7B2CB
Per Dozen.....	\$21.00
Size No.....	2
Size Blade.....inches	7 $\frac{1}{4}$ x12
Weight per Dozen.....pounds	65-67

Wood's Telegraph Shovels**Big Fist Brand—Plain Back**

Blade, 13 gage, extra grade, heat treated; Western Union pattern; black blade and polished strap. Size of blade, 9½x12 inches. Extra heavy handle, 1¼ inches diameter.

No.....	BF983	BF985	BF987	BF989
Per Dozen.....	\$50.50	54.00	57.50	61.00
Lgth. of Handles...ft.	7	8	9	10
Wt. per Dozen...lb.	100-102	105-108	110-114	115-118

Wood's Square Point Spades**Piqua Brand—Taper Sockets****I-Beam Handle—Moly D Grip**

Blade, 13 gage, grade C; black blade and polished strap. Turned steps. No. 1 grade handle, sanded and waxed, length, 26½ inches.

No.....	6C2TS
Per Dozen.....	\$16.80
Size No.....	2
Size Blade.....inches	7¼x12
Weight per Dozen.....pounds	64-66

Wood's Diamond Point Scoops**Stuart Brand—Western Pattern—Hollow Back****I-Beam Handle—Moly D Grip**

Blade, 15 gage, grade B, heat treated; black bowl and polished socket. X grade handle, sanded and waxed, length, 26½ inches.

No.....	B134D	B135D	B136D	B138D	B140D	B142D
Per Dozen.....	\$22.60	23.40	24.20	25.00	25.80	26.60
Size No.....	4	5	6	8	10	12
Size Blade....in.	11½x15½	11¾x16	12x16½	12¼x17	12¾x18	13x19
Wt. per Doz...lb.	66-68	68-70	70-73	75-78	80-82	82-84

Wood's Rounded Corner Scoops**Stuart Brand—Eastern Pattern—Hollow Back****I-Beam Handle—Moly D Grip**

Blade, 15 gage, grade B, heat treated; black bowls and polished sockets. X grade handle, sanded and waxed, length, 26½ inches.

No.....	B82RP	B83RP	B84RP	B85RP	B86RP	B87RP
Per Dozen.....	\$21.00	21.80	22.60	23.40	24.20	25.00
Size No.....	2	3	4	5	6	7
Size Blade...in.	11x15	11¼x15½	11½x15¾	11¾x16	12x16½	12½x17
Wt. per Doz.lb.	64-66	66-68	68-70	70-72	72-74	74-76

Wood's Telegraph Spoons**Big Fist Brand—Plain Back**

Blade, 13 gage, extra grade, heat treated; Western Union pattern, black blade and polished strap. Size of blade, 9½x9 inches. Extra heavy handle, 2 inch diameter.

No.....	BF982W	BF984W	BF986W	BF988W
Per Dozen.....	\$50.50	54.00	57.50	61.00
Lgth. of Handles.....feet	7	8	9	10
Wt. per Dozen.lb.	100-103	105-108	110-114	116-120

Wood's Narrow Mouth Scoops**Piqua Brand—Eastern Pattern—Hollow Back****I-Beam Handle—Moly D Grip**

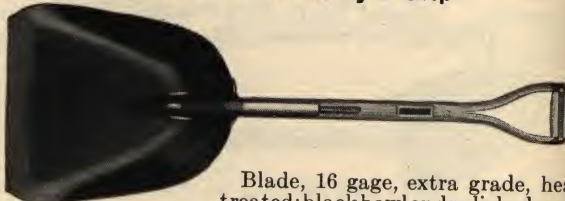
Blade, 16 gage, grade C; black bowl and polished socket. No. 1 grade handle, sanded and waxed, length, 26½ inches.

No.....	C82	C83	C84	C85	C86	C87
Per Dozen....	\$18.50	19.30	20.10	20.90	21.70	22.50
Size No.....	2	3	4	5	6	7
Size Blade.in.	11¼x15	11½x15½	11¾x15¾	12x16	12¼x16½	12¾x17
Wt.per Doz..lb.	63-65	65-67	67-69	69-71	71-73	73-75

Wood's Wide Mouth Scoops**Piqua Brand—Western Pattern—Hollow Back****I-Beam Handle—Moly D Grip**

Blade, 16 gage, grade C; black bowl and polished socket. No. 1 grade handle, sanded and waxed, length, 26½ inches.

No.....	C136	C138	C140	C142	C144
Per Dozen.....	\$21.70	22.50	23.30	24.10	24.90
Size No.....	6	8	10	12	14
Size Blade....in.	13½x16	14x17	14½x18	15x19	15½x20
Wt. per Doz...lb.	68-70	71-73	74-76	78-80	82-84

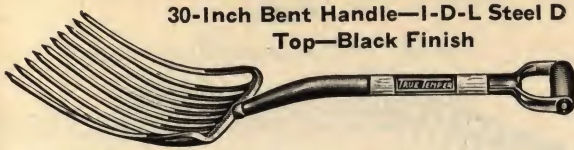
Wood's Wide Mouth Scoops**Big Fist Brand—Western Pattern—Hollow Back****I-Beam Handle—Moly D Grip**

Blade, 16 gage, extra grade, heat treated; black bowl and polished socket. XX grade handle, sanded and waxed, length, 26½ inches.

No.....	BF136Z	BF137Z	BF138Z	BF140Z	BF142Z
Per Dozen..	\$33.20	34.00	34.00	34.80	35.60
Size No....	6	7	8	10	12
Size Blade in.	14x16	14¼x16½	14½x17	15x18	15½x19
Wt. per Doz.....lb.	70-72	73-75	76-78	80-82	84-86

True Temper Coal Forks

30-Inch Bent Handle—I-D-L Steel D
Top—Black Finish



Tubular ferrules. Packed 6 in a bundle.

No.	Per Dozen	No. Diamond Tines	Length Tines, In.	Width at Center, In.	Space Bet. Tines, In.
810	10	15	11½	7⁄8
810½	10	16	13	1½
812	12	16	16	1
812½	12	16	13	7⁄8
814	14	16	14½	7⁄8
814½	14	15	12	5⁄8
816	16	16	16	¾

Coal Scoop Forks



Tubular ferrules. Approximate measurements are made midway the length of the tines.

Unless otherwise ordered, all of these forks will be put up with I-D-L steel D handles.

If coal forks with wood D handles are specified, they will be furnished at an additional cost.

Tied in bundles of 6 each. Tines not covered.

No.	Per Dozen	No. of Round Tines	Length Tines Inches	Width Center Inches	Space Between Tines Inches
1010R	10	15	14	1¼
1012R	12	15	13½	7⁄8
1012½R	12	16	15½	1
1014R	14	15	14	¾
1014½R	14	17	18	1
1016R	16	15	14	5⁄8
1016½R	16	16	17	¾

Coke Forks



All on 30-inch steel D handles, tubular ferrules.

Measurements given are approximately correct, and the width is measured midway the length of the tines—not at the points.

No.	Per Dozen	No. Diamond Tines	Length Tines Inches	Width at Center Inches	Space Bet. Tines Inches
708	8	16	11½	1¼
710	10	17	15	1¼
712	12	17	18	1¼
712½	12	16	16	1
714	14	17	20¼	1¼
714½	14	17	18	1
716	16	17	20½	1
716½	16	17	18	7⁄8
718½	18	16	16	5⁄8

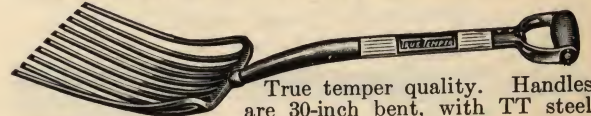
No. AF10 True Temper All-Steel Asphalt Forks



Tubular steel handles, 30 inches long; iron D-tops. The shank is driven into the handle with metal plugs and riveted through. Square tines. Black finish.

No.	AF10
Per Dozen	10
No. of Tines	13½
Length Tines	inches ¾
Spacing of Tines	inches 9½
Width Over All	inches 86
Shipping Weight	pounds

True Temper Stone or Ballast Forks



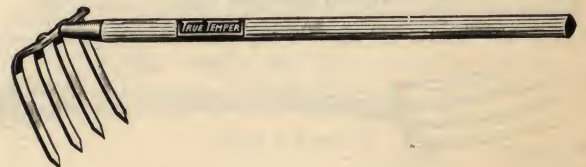
True temper quality. Handles are 30-inch bent, with TT steel D-tops. Tubular ferrules.

Measurements given are approximately correct. They are made midway the length of the tines—not at the points.

Square Tines—Black Finish

No.	No. Tines	Length Tines, In.	Width at Center In.	Between Tines, In.	Price per Dozen
98S	8	13½	10½	1½	.....
100S	10	14	13	1½	.....
100SC	10	13½	9½	¾	.....
102S	12	13½	11½	¾	.....
102SW	12	14	13	7⁄8	.....
104S	14	13½	12	5⁄8	.....

No. SH4 True Temper 4-Tine Stone Hooks



Steel head; heavy angular back tines; long plain ferrule. Has four 10-inch tines. Width, 7¾ inches.

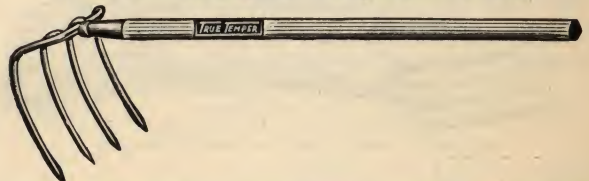
Ash handle, 5 feet long. Right repair handle No. 501.

Weight per dozen, 56 pounds.

No. SH4.....per dozen

True Temper Steel Manure Hooks

True Temper Quality—Long Plain Ferrules

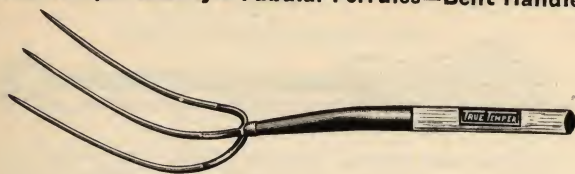


Forged from special analysis steel. Oval tines, bent head. Handle made of XX grade wood. Length of handle, 5 feet.

No.	M40	M50	M60
Per Dozen	4	5	6
No. of Tines	8¾	9	9½
Length of Tines	inches 8½	inches 8½	inches 8¾
Width	inches 498	inches 498	inches 498
Right Repair Handle No.	40	44	48
Weight per Dozen	pounds		

True Temper Regular 3-Tine Hay Forks

True Temper Quality—Tubular Ferrules—Bent Handles

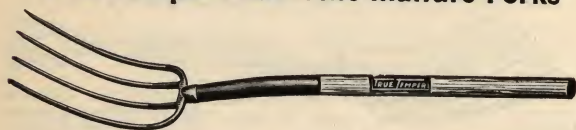


Made with 12-inch oval tines. Size ferrule, 10 inches.

Tied in bundles of 12 each, tines covered.

No.	0331½B	034B	0341½B	035B	035½B	036B
Per Dozen						
Length Handle.ft.	3½	4	4½	5	5½	6
Right Repair						
Handle No.	319	325	328	331	334	337
Wt. per Doz. .lb.	31	33	35	37	39	41

True Temper Four-Tine Manure Forks



Oval tines 12 inches long; 10 inch tubular ferrules.

Bent Long Handles

No.	Per Doz.	Wt. Lb. per Doz.	Lgth. Handle Ft.	RIGHT REPAIR HANDLE No.	Per Dozen
044	*	41	4	398
044½	*	43	4½	401

Bent D Handles

04D	42	†32	407
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*Can also be furnished with wide pattern long handled forks.
†Inches, IDL.

No. 0LD True Temper Regular 4-Tine Spading Forks



Light pattern. Steel head; 11-inch angular back tines, polished face and tumbled back; 10-inch tubular ferrule.

Has 30-inch bent ash handle. IDL steel D-top. Right repair handle No. 433.

Weight per dozen, 55 pounds.

No. 0LD.....per dozen

No. J0D True Temper Jumbo 4-Tine Spading Forks



Steel head; extra heavy 10¾-inch angular back tines, polished face and tumbled back; 10-inch tubular ferrule.

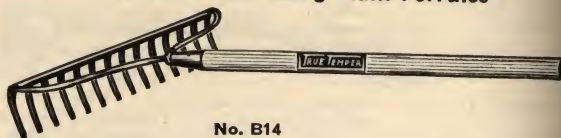
Has 30-inch bent ash handle, IDL steel D-top. Right repair handle No. 433J.

Weight per dozen, 61 pounds.

No. J0D.....per dozen

True Temper Round Bow Steel Garden Rakes

Curved Teeth—Long Plain Ferrules



No. B14

Forged from one solid piece of steel with curved teeth. Depth of head, 3¼ inches. Thickness of head, ¼ inch. Length of handle, 5 feet. Right repair handle No. 506.

No.	B12	B14	B16
Per Dozen			
No. of Teeth	12	14	16
Width of Head	12	14	16
Weight, per Dozen	35	37	39

Level Head Steel Garden Rakes

Straight Teeth



No. 14L

True Temper Quality—Ely Brand

Long Plain Ferrules

No.	Per Dozen	No. of Teeth	Depth Head Inches	Thick-ness Head Inches	Width Head Inches	Length Handle Feet	Right Repair Handle No.
12L	12	3¼	5/16	12½	5½	514
14L	14	3¼	5/16	14¾	5½	514
16L	16	3¼	5/16	17	5½	514
18L	18	3¼	5/16	19¼	5½	514

Second Quality

Plain Ferrules

12LX	....	12	3¼	1/4	12½	5½	518
14LX	....	14	3¼	1/4	14¾	5½	518
16LX	....	16	3¼	1/4	17	5½	518

Third or Panther Quality

Plain Ferrules

PL12	....	12	2¾	1/4	12	5	513P
PL14	....	14	2¾	1/4	14	5	513P
PL16	....	16	2¾	1/4	16	5	513P

True Temper Lawncomb Rakes

Socket Pattern
Flexible Flat Spring Steel Teeth



Designed for sweeping mowed grass, leaves, twigs, etc. from lawn. Equally convenient and effective for gravel paths, walks and drives, and ideal around plants, vines, shrubbery and flower beds.

Has 24 teeth with rounded ends which do not dig in and injure grass, plants, or tender roots.

Heads packed ½ dozen in carton; handles tied in ½ dozen bundles.

No.	LC18	LC18S	LC24
Per Dozen			
Length Teeth	8	8	9½
Width at Points	18	18	24
Length Handle	52	42	60
Right Repair Handle No.	553	553S	556
Weight per Dozen	30	26	38

Extra Heavy Steel Road Rakes



Straight teeth, single shanks, black finish.
Tied in bundles of six each. Heads not covered.

No.	No. Teeth	Length Handles Feet	Per Dozen
X14	14	5½	.....
X16	16	5½	.....

No. 914H True Temper Steel Asphalt or Tar Rakes



Furnished in regular straight shank pattern with 18-inch square shank and strap ferrule.

Depth of head, 4½ inches; thickness of head, 1½ inch; width of head, 16½ inches; length of handle, 5 feet; number of teeth, 14.

Right repair handle No. 520.

Tied in bundles of 6 each. Weight per dozen, 78 pounds.

No. 914H.....per dozen

True Temper Flat Top Turf Edgers



Flat top or foot rest makes sod cutting or edging simple and easy. Blade size: width, 9 inches; depth, 4¾ inches. Tied 6 in a bundle.

No. 40F Shank Pattern—Long Plain Ferrules

Length of handle, 4 feet. Right repair handle No. 560.

Weight per dozen, 32 pounds.

No. 40F.....per dozen

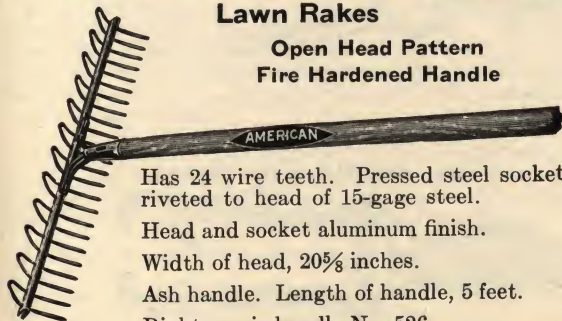
Socket Pattern

No. 040DF furnished with IDL handle.

No.	040F	040DF
Per Dozen.....	.....	.....
Length Handle.....inches	48	30
Right Repair Handle No.....	563	566
Weight per Dozen.....pounds	32	33

No. 124R True Temper Riveted Wire Lawn Rakes

Open Head Pattern
Fire Hardened Handle



Has 24 wire teeth. Pressed steel socket riveted to head of 15-gage steel.

Head and socket aluminum finish.

Width of head, 20⅝ inches.

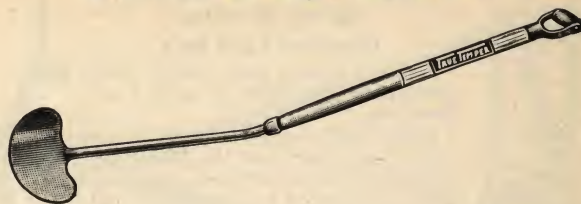
Ash handle. Length of handle, 5 feet.

Right repair handle No. 526.

Weight per dozen, 35 pounds.

No. 124R.....per dozen

No. 1 True Temper Sod Lifters



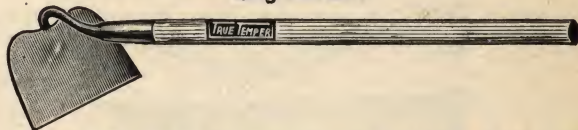
Blade and 18-inch shank forged from one solid piece of steel; 10-inch tubular ferrule. Blade width, 9 inches; depth, 5 inches.

Has 32-inch IDL steel D-top handle. Right repair handle No. 569.

Weight per dozen, 58 pounds.

No. 1.....per dozen

True Temper Regular Field and Garden Hoes
True Temper Quality—Socket Pattern
Long Sockets



Length of handle, 4⅓ feet. Right repair handle No. 627.
Tied 6 in a bundle.

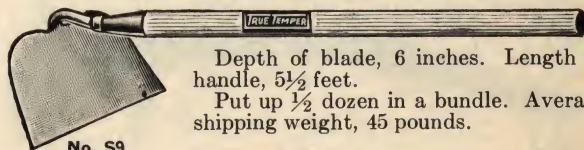
No.	G06	G06½	G07	G07½	G08	G067
Per Dozen.....	.....	.....	.....	.....	.....	.....
Blade Width in.....	6	6½	7	7½	8	6 to 7
Wt. per Doz. lb.....	27	28	28	29	29	28

No. G06½/27½—Assorted

Blade widths, 6½ to 7½ inches. Right repair handle No. 627. Tied 6 in a bundle. Weight per dozen, 28 pounds.

No. G06½/27½.....per dozen

True Temper Mortar Hoes



No. S9

Depth of blade, 6 inches. Length of handle, 5½ feet.

Put up ½ dozen in a bundle. Average shipping weight, 45 pounds.

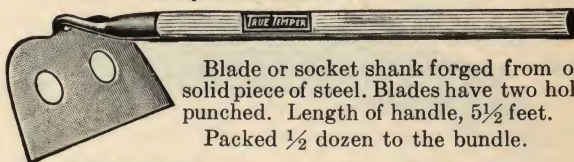
Shank Pattern

No.	Plain Ferrule	Strap Ferrule
No.	9	09
Per Dozen.....	10	010
Width Blade.....inches	9	9
Right Repair Handle No.....	648	654

Socket Pattern

No.	S9	S10
No.	S9	S10
Per Dozen.....	.....	.....
Width Blade.....inches	9	10
Right Repair Handle No.....	660	660

True Temper 2-Hole Mortar Mixers



Blade or socket shank forged from one solid piece of steel. Blades have two holes punched. Length of handle, 5½ feet.

Packed ½ dozen to the bundle.

Shank Pattern—Long Plain Ferrules

No.	Per Dozen	Width Blade Inches	Repair Handle No.	Weight Pounds per Doz.
M29	9	648	47
M210	10	648	48

Shank Pattern—Strap Ferrules

No.	Per Dozen	Width Blade Inches	Repair Handle No.	Weight Pounds per Doz.
M0210	10	654	49

Socket Pattern—Long Sockets

No.	Per Dozen	Width Blade Inches	Repair Handle No.	Weight Pounds per Doz.
SM29	9	660	49
SM210	10	660	50

No. 30 Seymour Ironclad Scythe Grass Snaths

Improved Loop Bolt

A grass snath with swing plate permitting flexibility in scythe adjustment.

Loop bolt clamps heel of scythe to an iron plate, and the bolt, held in a metal socket beyond end of the stick, is secured by heavy nut and lock washer; this locks scythe into position.

Butt end is completely encased in iron. Fitting forms an iron band into which stick is driven.

Wood is young northern ash, seasoned and dried.

Weight per dozen, 53 pounds.

No. 30.....per doz. \$21.00

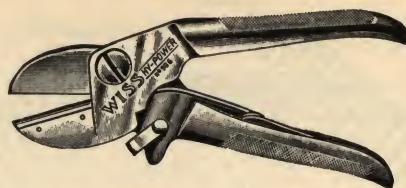


No. 30



No. 30, Full View

No. 906 Wiss Hy-Power Pruners



A small light weight pruner with bronze anvil, non-pinching grip and convenient thumb lock. The compact size and light weight make it very popular with lady gardeners.

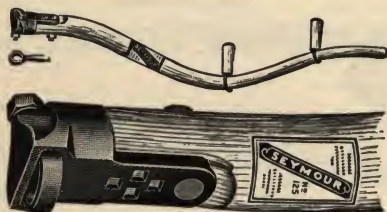
Pruner cuts through the wood with a smooth draw-cut action onto the soft bronze anvil, which greatly prolongs the sharpness of the blade. Effortless cutting action.

Nickel finish. Length, 6 inches.

Packed in individual boxes, 6 to a display carton.

No. 906, Weight per Doz., 6 Pounds.....each \$1.50

No. 125 Seymour Ironclad Improved Loop Bolt Scythe Snaths



For cutting heavy weeds and brush. Four holes in the plate give four adjustments to the scythe.

Shank of scythe is clamped to an iron plate by a powerful bolt which rests in a metal socket and is secured by a heavy nut and lock washer.

No. 125, Weight, 63 Pounds.....per dozen \$16.50

Briar Edge Grass Scythes



This scythe is made of one-piece high-grade carbon steel. It is tempered throughout giving scythe correct degree of toughness and elasticity.

It sharpens easily and will hold good cutting edge.

Can be ground all the way back, insuring long life.

The cutting edge is whetted sharp and polished. The balance of scythe is painted black.

The lengths are from 26 to 36 inches. The usual assortment is 28 to 32 or 30 to 34 inches.

Packed one-half dozen in burlap bundles.

Price.....per dozen

Kelly Briar Edge Bush Scythes



Hand-forged from one piece of carbon steel; perfect temper throughout. Black finish, with cutting edge polished and whetted sharp.

Tempered in oil; sharpens easily.

Lengths, assorted 18 to 22 inches.

Packed 6 in a burlap bundle.

Approximate shipping weight, 28 pounds per dozen.

Per Dozen.....

No. 908-B Wiss Hy-Power Pruners



Effortless cutting action simplifies pruning. Sturdy, keen, knife blade.

Light in weight, with a comfortable non-pinching grip and convenient thumb lock. Rust-resisting gunmetal finish. Length, 8 inches. Individually boxed.

No. 908-B, Weight per Doz., 9 Pounds.....each \$1.35

No. 908 Wiss Hy-Power Pruning Shears With Pistol Grip Handle



The thin, keen knife blade of this pruner cuts through the wood with a draw-cut action on to the soft bronze anvil. For ladies' use as well as the professional pruner.

Tempered tool steel frames, positive closing latch, coil steel spring.

Length, 8 inches.

Approximate weight, 12 ounces.

No. 908.....each \$2.00

No. 309-B Wiss Pruning Shears



Brass leaf spring, castellated nut and catch, interchangeable blades. Forged extra thin. Polished finish. Full length,

9 inches. Packed 1 in box. Weight per dozen, 11½ pounds.

No. 309-B.....each \$3.25

No. 609 Pruning Shears



High quality solid steel pruner. Powerful, strong,

and durable. Lgt., 9 in. 6 in a box; wt. per doz., 10 lbs. 4 oz.

No. 609.....each \$1.50

Porter Pointcut Pruners

For cutting suckers on the point and all range pruning and where cuts less than $\frac{3}{4}$ -inch predominate, this pruner will prove to be a quick and satisfactory tool.

Especially valuable for fruit, nursery and horticultural use. This tool will cut close and clean without the slightest damage to the bark. The cutting edges of the blades can be placed close against the main branch, and at the best place for pruning. Blades are so designed that suckers are cut on the point with minimum handle opening. Both blades have sharp cutting edges. The upper blade is equipped with spur which supports lower blade and resists the tendency to cross the edges. The patented slide shift power slot instantly places at the user's disposal great extra power in the middle of a difficult cut by the simple shift from one notch of the power slot to the next.

Cutting blades are of drop forged tool steel; handles are medium carbon steel heat treated to a spring temper. Screws are of heat treated alloy steel. Handle grips are of wood. All parts are interchangeable.

Capacity in standing green wood, $1\frac{1}{4}$ inches. Approximate weight, No. 120, 2 pounds 12 ounces; No. 124, 3 pounds 2 ounces; No. 127, 3 pounds, 7 ounces.

No. 120 Complete Tool, 20 Inches Long.....	each	\$5.00
No. 124 Complete Tool, 24 Inches Long.....	each	5.10
No. 127 Complete Tool, 27 Inches Long.....	each	5.20
Cutterhead Complete	Spring & Spring Ear	each \$3.90
Curved Blade...each	1.60	Pr.Hdle. Complete.ea. 1.85
Straight Blade...each	1.50	Handle with Grip.each .85
Pivot Bolt & Nut.each	.15	Handle Center Bolt & Nut.....each .15
Power Slot Bolt & Nut.....each	.15	

Porter Foresters

No. 1 is especially designed for the fruit grower but it is also handy for the home gardener for light shrub cutting, root cutting and any general clearing up.

No. 2 is suitable for forest pruning, brush and shrub cutting and root cutting. Especially recommended as a forestry tool where pine pruning and rust control programs are being carried out. Convenient in close growth.

No. 3 is capable of cutting up to its rated capacity in hard wood such as oak, maple and beech. Designed for use in reforestation work for such jobs as brush cutting, trail clearing, roadside stripping and any general improvement cutting in stands of all ages.

These foresters have the slide shift 3-power slot which provides great extra power in the middle of a difficult cut by the simple shift from one notch of the power slot to the next. Power can be increased 50 or 100 per cent. Use of the power slot is easy, instantaneous and with a few minutes practice, instinctive.

Ruggedly built for life time use. Easily sharpened by the use of a half round, second cut file of the proper size. Edges are protected when the handles are closed. All parts are carefully heat treated, and fully interchangeable.

Cuts clean and without damage to bark.

No.....	1	2	3
Each.....	.....	.....	.....
Length.....inches	20	27	34
Capacity Cut.....inches	$1\frac{1}{8}$	$1\frac{1}{2}$	2
Weight.....pounds	$2\frac{5}{8}$	$4\frac{5}{8}$	$7\frac{1}{4}$

No. 7 Disston Lopping Shears

Has special shaped hook which gives blade a shearing cut. Blade is concave ground. Blade and hook made of Disston steel, drop-forged, hardened, tempered.

Long arms give greater reach and leverage. Arms are forged steel and are extensions of blade and hook, tapering to the handles. On hook arm is a forged stop lug which prevents handles from closing on fingers when in use. Tangs on arms pass through round hardwood handles and washer and are then riveted on the ends. Handles lacquered orange.

Length of blade and hook $2\frac{1}{2}$ inches; length of arms 26 inches; length of handles 8 inches, reinforced by 1-inch ferules; overall length $28\frac{1}{2}$ inches. Weight $2\frac{3}{4}$ pounds each. No. 7.....per doz. \$43.00

Bartlett Long Pole Tree Pruners**No. 1R**

A one-piece pruner with a compound lever head. Intended for heavy work. Will cut a limb up to $1\frac{1}{4}$ inches in diameter.

Made with a hook and side lever.

Instead of running the rod connecting the knife lever along one side of the pole to a handle lever, the handle lever is on the opposite side, which allows rod to cross the pole. This keeps the pole straight while cutting.



Size Pole Feet	Each	Wt. Lb.
6	\$5.50	5
8	5.80	$5\frac{1}{2}$
10	6.10	6
12	6.45	$6\frac{1}{2}$
14	6.80	7
16	7.20	$7\frac{1}{2}$

No. 1-RJ—Jointed

Same as No. 1R, except made in 4-foot sections.

No. 1R

Packed in individual cartons.

**No. 1W**

8-Foot Pruner—Made up by using the top section and handle section. Weight, 5 pounds, 12 ounces. With drawn brass sleeve.....each \$6.60

12-Foot Pruner—Made up by using the top section, handle section and one intermediate section. Weight, 7 pounds, 9 ounces. With drawn brass sleeve...each \$8.25

16-Foot Pruner—Made up by using top section, handle section and two intermediate sections. Weight, 9 pounds, 6 ounces. With drawn brass sleeve....each \$9.90

Extra Intermediate Sections with drawn brass sleeve, complete. Shipping weight, 2 pounds additional.ea. \$2.40

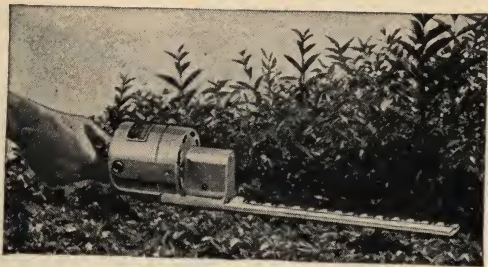
No. 1W

Same as the No. 1R except that a pulley is attached to the compound lever and operated by a rope direct from the head in place of a pull lever. Each pole is furnished with a sleeve ferrule for adding extra sections.

Weight of head complete, $1\frac{3}{4}$ pounds.

Size Pole...ft.	4	6	8	10	12	14	16
No. 1W....each	\$6.10	6.40	6.70	7.00	7.30	7.60	7.90
Weight.....lb.	4	$4\frac{1}{2}$	5	$5\frac{1}{2}$	6	$6\frac{1}{2}$	7

Electrimmers



Electric hedge trimmer. Will trim 100 feet of average hedge in 30 minutes. Will shape irregular or ornamental bushes and shrubs. Equipped with 12-inch cutter blade, demountable side or top handle and 6-foot rubber covered cord with unbreakable connector. Universal 1/4-h.p. motor for a.c. or d.c. up to 60 cycles, 110 volts. Steel worm and bronze wheel gears running in grease sealed chamber. Single pole, built in toggle switch, on motor frame.

Three-conductor, high grade rubber covered with unbreakable connector.

Extension Cords			
No.	218	219	235
Each	\$2.25	3.50	8.50
Size No. of Cord	18	18	16
Length	50	100	200
	feet		

Disston Hedge Shears

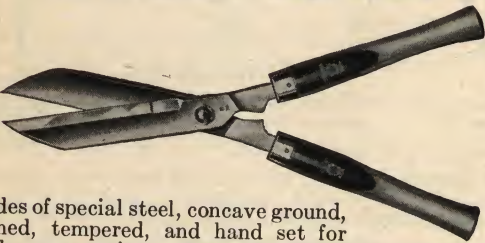


Half oval steel blades, hardened and tempered, hollow ground, and full polished. Width, 1 3/8 inches. No. 305 has one blade serrated for heavier cutting. Tang extends through handle. Nickel-plated ferrule. Natural hardwood, clear lacquer handle with black lacquer band at ferrule end.

Packed 1 dozen in a carton.

	No. 30, Plain Blades			No. 305, One Serrated Blade		
Length Blade..... in.	8	9	10	8	9	10
Per Pair.....	\$2.50	2.70	2.90	2.70	2.90	3.10
Length Overall..... in.	21	22	23	22	23	24
Weight..... lb.	2 1/2	2 3/4	3	3	3 1/4	3 1/2

No. 36 Disston Hedge Shears



Blades of special steel, concave ground, hardened, tempered, and hand set for smooth, easy action. Round handles with clear lacquer finish, tipped with red diagonal band below ferrule. Rivet through handle, tang, and nickel plated ferrule.

Packed 1 dozen in carton.

Length Blade..... inches	7	8	9	10	12
No. 36..... per pair	\$1.80	2.00	2.20	2.40	3.15
Length Overall..... inches	21	22	23	24	26
Weight..... pounds	2 3/4	3	3 1/4	3 1/2	4

No. 5600 Wiss Grass Shears



Light in weight. Blades accurately tempered. With large steel bolt. Colored lacquered handles. Polished face.

Length, 12 1/2 inches; cut, 5 1/2 inches; weight, 11 ounces.

No. 5600..... each \$1.35

No. 8 1/2-E Wiss Shock-Proof Hedge Shears
English Pattern

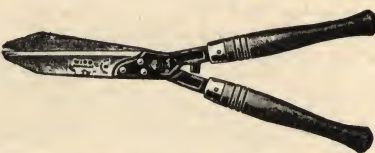


Light professional hedge shear fitted with an improved metal covered rubber shock absorber which reduces arm fatigue. Blades are full forged, hollow ground, highly polished and hardened and tempered; have a notch and cutter for heavy duty. Handles of non-splitting maple riveted through nickel-plated steel ferrules and tang. May be had with no notch when specified.

Length blade, 8 1/2 inches. Packed 6 to a shipping carton. Weight each, 2 pounds 6 ounces.

No. 8 1/2-E..... each \$3.00

Wiss Professional Pattern Hedge Shears

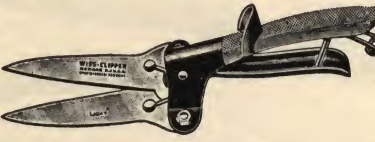


Their perfect balance does not tire the arms, they cut easily, and the serrated edge prevents slipping.

Cutlery steel blades with one serrated edge and one sharp edge. Blades are hardened, tempered, and nicked. Large 1/6-inch bolt, nut, and washer. Hardwood handles. Steel ferrules. Packed 1 in a box.

No.	8-W	9-W	10-W
Each	\$3.00	3.25	3.50
Length of Blade..... inches	8	9	10
Weight..... pounds	2 7/8	3	3 1/8

No. 701 Wiss-Clipper Grass Shears



Equipped with adjusting nuts and winging shackle which enable the blades to be spread apart for resharpening. Handles are curved to fit the hand, fitted with grip-guard, and are knurled to prevent slipping. Blades hardened and tempered with cadmium plated, rust-resisting finish. Blades are narrow for working in awkward places. Finished with blue handles.

Length, 12 inches.

Packed in individual boxes, 6 to a shipping carton.

Weight per dozen, 10 1/2 pounds.

No. 701..... each \$1.25

No. 68 Wiss Pruning Shears



Solid steel. Blue handles. Has volute spring and ring catch. Full length, 8 1/4 inches.

Packed 6 in a box. Weight per dozen, 9 pounds.

No. 68..... each \$1.00

MATERIAL NOT LISTED

We can furnish practically everything used in mill, factory, or shop.

Please send us all of your inquiries.

Davis Lawnmowers

4-Square All-Sharp Lawnmowers



No. 70

Automotive roller bearings with self-aligning sleeves; single screw adjustment. Precision built, with Disston saw steel blades. Cutter blade has lipped shearing edge. Pawls are hardened with beveled shoulders.

Furnished with 10-inch semi-pneumatic rubber tires. Plastic handle grips. Unit boxed complete with handle.

No. 97.—Reel—7 blades, 6-inch diameter. Reel shaft $\frac{5}{8}$ -inch. Shrub bar of 1-inch aircraft tubing. Rubber roller mounted on heavy steel pins with spring cup oilers. Finish—canary yellow with blue and chromium trim; chrome-plated wheel discs. For bent grass only. Weight, 16-inch, 46 pounds.

No. 70.—Reel—5 blades, 6-inch diameter. Reel shaft and shrub bar, $\frac{5}{8}$ -inch. Rubber roller mounted on heavy steel pins with spring cup oilers. Finish—shoal green with Killarney green and chromium trim. Weight, 16-in., 47 lb.

No. 50.—Reel, 5 blades. Reel shaft and shrub bar, $\frac{5}{8}$ -inch. Wood roller. Finish—bronze with scarlet trim. Weight, 16-inch, 44.5 pounds.

Size.....inches	14	16	18
No. 97.....each
No. 70.....each
No. 50.....each

No. 1400 Whispering Lawnmowers



No. 1400

Reel—5 blades; 4 spiders, 6-inch diameter. Blades are of Disston alloy saw steel. Cutter blade has heavy lipped edge. Automotive roller bearings in reel, cage and roller type, with the self-aligning bearing sleeves. Side plates are cast from nickel iron, webbed for strength. This lawn-mower has the single screw adjustment feature.

Wheels mounted on automotive roller bearings; spring cap oil cups. Metal handle with plastic grips.

Ball-bearing rubber roller. 10-inch semi-pneumatic tires. Finished in canary yellow or comber green; chrome trim optional. Chrome-plated handles, reel shields and wheel disks. Unit boxed complete with handle.

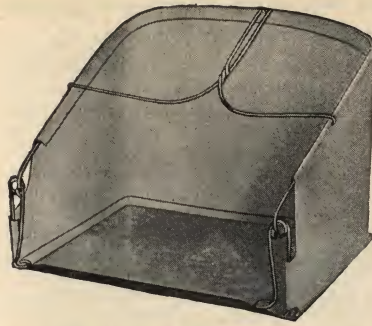
Weight of 16-inch model, 50.5 pounds.

Size.....inches	16	18
No. 1400.....each

Nox-All Grass Catchers

Made with extra heavy steel galvanized wire, round back frame.

Steel hook is bolted to inside of roller bracket and holds catcher in its proper position. Each catcher has one pair of hooks firmly wired on before shipping. Adjustment is obtained through wire



loops. Extra heavy galvanized iron bottom. Catcher is 18 in. high, 16 $\frac{1}{2}$ in. deep, adjustable for 16 to 18-in. mowers.

No. 1110XH, Heavy White Duck.....per dozen	\$11.25
No. 1110C, Heavy Stripe Duck.....per dozen	11.75

Dunham Water-Weight Lawn Rollers

Steel Drums

Although more convenient when filled with water, the Dunham Lawn Roller weighs 50 per cent more when filled with sand.

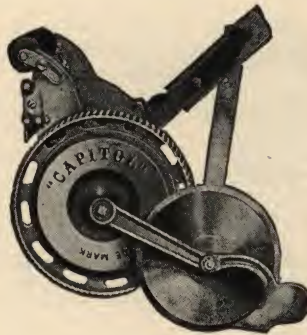
It is painted green on the body and ends. It has red handles.

Nos. 2 and 4 have plain bearing; Nos. 5, 7 and 9 have roller bearing.



No.	Diam. Inches	Length Inches	WEIGHT, POUNDS		Each
			Empty	Filled	
2	14	24	60	175	\$13.50
4	18	24	82	265	16.00
5	18	24	85	265	20.00
7	24	24	110	420	23.00
9	24	32	130	565	26.00

Capitol Trimming and Edging Machines



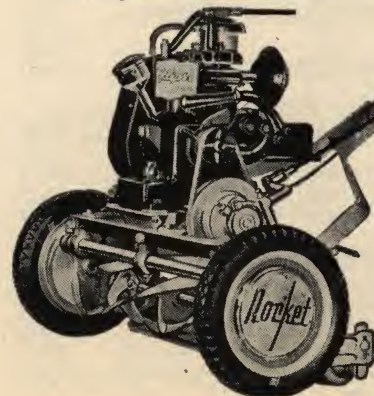
This machine is practically a lawn mower cut in two in the middle, provided with a strong plate and outer bearings for the shaft of cylinder, suitably braced. It has a sharp edged disk with a little plow-share to throw aside the edgings.

It trims and edges the lawn quickly and thoroughly. It not only cuts grass, but slices sod, evens up margins, and cleans edges.

Shipping weight, 25 pounds.

Prices upon application.

Eclipse Rocket Power Lawn Mowers



For use on small lawn areas. Makes lawn maintenance easy.

Equipped with four-cycle Briggs & Stratton motor, quiet V-belt drive, Goodyear rubber tires, and Timken bearings.

Hub caps are chromium plated.

Full 20-inch cut.

Each..... \$77.50

No. 1214 Fairbanks Platform Counter Scales**With Tall Iron Pillar**

Scale is of regular platform counter construction, and is fitted with tall iron pillar. Has iron frame and platform. It is used for general weighing, where it is more convenient to have beam brought higher. Arrow-tip beam is regularly single, of brass, with brass sliding poise and set screw. It may be furnished graduated 5 pounds by 1 ounce, at an additional charge. Counter poise and weights are of iron. Size of platform, $13\frac{1}{2} \times 19\frac{1}{2}$ inches.

No.	Capacity	Beam	Height Over All, Ft.	Ship. Wt., Lbs.	Price Each
1214	300 Lbs. x 2 Oz.	10 Lbs. x 2 Oz.	$3\frac{1}{3}$	120	\$35.00

Fairbanks Platform Counter Scales**Suspended Platform and Short Iron Pillar**

Adapted for weighing valuable commodities, such as fine silks and other fabrics, bullion, valuable castings, and similar products.

Has single, brass arrow-tip beam, notched top with brass sliding poise.

No. 1216 has weights and counterpoise of iron; No. 1220, of brass.

Durable finish.

Platform, $13\frac{1}{2} \times 19\frac{1}{2}$ in.

No.	Capacity	Beam	Ht. Over All, In.	Ship. Wt., Lbs.	Price Each
1216	300 Lbs. x $\frac{1}{4}$ Oz.	3 Lbs. x $\frac{1}{4}$ Oz.	28	116	\$40.00
1220	300 " x $\frac{1}{4}$ "	3 " x $\frac{1}{4}$ "	28	118	70.00

Fairbanks Portable Platform Scales

The Nos. 1124 and 1128 have all metal pillar, cap and platform and are furnished with single aluminum alloy arrow tip beam with center indicating poise.

Larger sizes have wood pillar, cap and platform; pillar is braced with iron rods.

Full capacity beam may be furnished on larger sizes on special order.

Without Wheels

No.	Each	Capacity Pounds	Beam Pounds	Size Platform Inches
1100	\$85.00	2500	$100 \times \frac{1}{2}$	25×34
1102	75.00	2000	$100 \times \frac{1}{2}$	25×32
1104	56.00	1500	$100 \times \frac{1}{2}$	22×31

With Wheels

No.	Each	Capacity Pounds	Beam Pounds	Size Platform Inches
1116	\$90.00	2500	$100 \times \frac{1}{2}$	25×34
1118	80.00	2000	$100 \times \frac{1}{2}$	25×32
1120	60.00	1500	$100 \times \frac{1}{2}$	22×31
1124	24.20	1000	$100 \times \frac{1}{2}$	18×27
1128	21.10	500	$50 \times \frac{1}{4}$	16×25

With Bag Rack and Wheels

No.	Each	Capacity Pounds	Beam Pounds	Size Platform Inches
1148	\$100.00	2500	$100 \times \frac{1}{2}$	25×34
1150	88.00	2000	$100 \times \frac{1}{2}$	25×32
1152	68.00	1500	$100 \times \frac{1}{2}$	22×31

NOTE. In the platform sizes, the first figure is the dimension parallel with the beam.

Fairbanks Platform Counter Scales**With Patented Split-hoop Scoop**

This scale is equipped with a split-hoop scoop and fork, allowing the scoop to be set upon a counter.

Platform is $10\frac{1}{2} \times 13\frac{1}{2}$ in. Scoop size, $18\frac{1}{2} \times 9 \times 5\frac{1}{4}$ inches.

Capacity in scoop, 25 pounds by $\frac{1}{2}$ ounce; on platform, 250 pounds by $\frac{1}{4}$ pound.

No.	Description	Shipping Weight Pounds	Price Each
508	Single Beam, Tin Scoop	57	\$20.00
510	" " Brass Scoop	57	22.00
512	Double " Tin "	58	22.00
514	" " Brass "	58	24.00

No. 532 Fairbanks Platform Counter Scales**With Full Capacity Beam**

Especially adapted for accurate weighing of packages up to 75 pounds for express or parcel post shipments. Assures speed in weighing, each reading being given directly by the poises. Beam is of brass with notched top and brass sliding poises. Finished in gray crackle enamel. Capacity is 75 pounds by 1 ounce.

No.	Each	Beam	Platform Inches	Shipping Wt. Lbs.
532	\$27.00	(Upper 5 Lbs. x 1 Oz.) (Lower 70 x 1 Lbs.)	$10\frac{1}{2} \times 12$	44

Fairbanks Platform Counter Scales**With Short Iron Pillar**

Built of metal throughout with short iron pillar and iron platform of convenient size.

Single-arrow-tip beam is of brass with brass sliding poise, loose iron weights making up full capacity.

The scale is finished in gray enamel.

Size of platform: No. 528, $10\frac{1}{2} \times 14$ inches; No. 1212, $13\frac{1}{2} \times 19\frac{1}{2}$ inches.



No.	Each	Capacity	Beam	Ht. Over All, In.	Ship. Wt., Lbs.
528	\$24.00	200 Lbs. x 1 Oz.	5 Lbs. x 1 Oz.	$18\frac{1}{2}$	50
1212	32.00	300 Lbs. x 2 Oz.	10 Lbs. x 2 Oz.	28	108

No. 11803 Fairbanks Unit Counting Scales**Counter or Bench Type**

Metal with suspended platform and agate beam bearing.

Fixed ratio, 50 to 1 between load on platform and small scoop. Beam arranged with counting tray which is graduated in units of 1.

Single brass beam of arrow-tip pattern, with brass poise. Beam, 3 lbs. by $\frac{1}{4}$ oz., used for obtaining either the gross or tare weights.

Durable black enamel finish, with bronze striping.

Capacity, 300 pounds. Platform, $13\frac{1}{2} \times 19\frac{1}{2}$ inches. Price on application.

No. 215 Daisy Hotel Trucks

A light truck; sturdy and durable.
Length of handle, 46 inches. Greatest width, 19 $\frac{3}{4}$ inches. Length of nose, 4 inches.

Furnished with metal or demountable rubber tired wheels. Also furnished with legs—designated as No. 215-A.

Varnished, with iron parts black.

Approximate weight, 29 pounds.

With Plain Bearing Metal Wheels.....each	\$5.35
With Roller Bearing Metal Wheels.....each	7.00
With Plain Bearing, 5-inch Solid Rubber Wheels.....each	7.80
With Plain Bearing, 6-inch Solid Rubber Wheels.....each	8.70

No. 201 K&J Railroad and Warehouse Trucks

Full Ironed

Made of carefully selected materials, well constructed, and is amply strong for all ordinary uses.

No.	With Pl. Brg. Metal Wheels Each	Lgth. Handles In.	Greatest Width In.	Lgth. Nose In.	Approx. Wt. Lb.
1	\$8.00	48	20 $\frac{5}{8}$	5	50
2	8.85	52	20 $\frac{5}{8}$	5	62
3	11.15	56	24 $\frac{3}{4}$	5	88

Can also be furnished with other types of wheels. Prices upon application.

No. 207 K&J Wood Frame Barrel Trucks

Full Ironed

Made of carefully selected materials, well constructed, and amply strong for all ordinary uses.

With curved steel crossbars for handling barrels.

Size No.	With Pl. Brg. Metal Wheels Each	Lgth. Handles In.	Greatest Width In.	Lgth. Nose In.	Approx. Wt. Lb.
1	\$8.00	48	20 $\frac{5}{8}$	5	50
2	8.85	52	20 $\frac{5}{8}$	5	65
3	11.15	56	24 $\frac{3}{4}$	5	90
*4	19.60	58 $\frac{1}{2}$	24 $\frac{1}{2}$	6	140

*All steel construction with wood grips.

Can also be furnished with other types of wheels. Prices upon application.

No. 235 K&J Grocery Trucks

For grocers, merchants, millers, and warehousemen.

Varnished, with iron parts black.

Size No.	With Pl. Brg. Metal Wheels Each	Width Ft.	Platform Lgth. Ft.	Ht. In.	Approx. Wt. Lb.
1	\$27.50	21 $\frac{1}{2}$	4	19 $\frac{3}{4}$	215
2	29.50	21 $\frac{1}{2}$	5	19 $\frac{3}{4}$	230
4	30.50	3	5	19 $\frac{3}{4}$	250
5	31.75	3	6	19 $\frac{3}{4}$	290

Can also be furnished with other types of wheels. Prices upon application.

No. 249 Wagon and Grain Trucks

This wagon is for use about warehouses, factories, etc., for handling any material lighter than sheet metal. Solidly built and strong.



No.	Length	Width	Ht.
1	36	24	12 $\frac{3}{4}$
2	38	26	12 $\frac{3}{4}$
3	40	28	12 $\frac{3}{4}$
4	42	30	12 $\frac{3}{4}$
5	44	32	12 $\frac{3}{4}$
6	46	34	12 $\frac{3}{4}$

No.	Wheels	Approx. Wt. Lb.	Price Each
1	8x2 $\frac{1}{2}$	120	\$15.60
2	8x2 $\frac{1}{2}$	125	16.20
3	8x2 $\frac{1}{2}$	130	16.20
4	8x2 $\frac{1}{2}$	140	17.30
5	8x2 $\frac{1}{2}$	147	17.30
6	8x2 $\frac{1}{2}$	155	18.50

No. 304 K&J Factory Trucks

With Pl. Brg. Metal Wheels Each

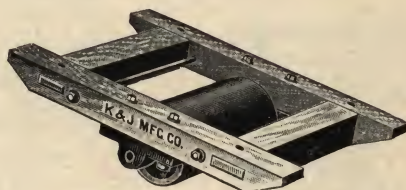
No.	Platform, Inches Lgth. Width	Ht.
1	\$19.60 48 23 $\frac{3}{4}$	14
1A	20.75 48 30	14
1X	21.40 60 23 $\frac{3}{4}$	14
1XX	22.00 60 30	14
2	24.00 60 36	14 $\frac{1}{2}$
3	32.00 60 36	19 $\frac{3}{4}$

Balanced on center wheels. Swivel caster at each end. Platform frame is tied at each corner by steel connection angles.

Can also be furnished with other types of wheels. Prices upon application.

No.	Wheels, Center	Platform, Inches Lgth. Width	Stakes Wt. Lb.
1	11x2 $\frac{1}{2}$	5x1 $\frac{1}{4}$	30 163
1A	11x2 $\frac{1}{2}$	5x1 $\frac{1}{4}$	30 173
1X	11x2 $\frac{1}{2}$	5x1 $\frac{1}{4}$	30 174
1XX	11x2 $\frac{1}{2}$	5x1 $\frac{1}{4}$	30 185
2	12x2 $\frac{1}{2}$	5x1 $\frac{1}{4}$	30 202
3	14x2 $\frac{3}{4}$	8x2	30 255

No. 282 K & J Dollies



These dollies are made with flat face cast iron roller. Can be used either as a truck or inverted and used as a roller.

No.	Length, In.	Width, In.	Height, In.	Appr. Wt. Lbs.
1	24	17 $\frac{1}{4}$	7	51
2	24	20	7	61

Prices upon application.

No. 228 K & J Skids



Made from selected, straight grained timber well seasoned, with the ends of side rails protected by steel tips.

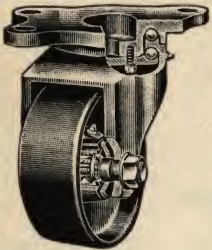
Skids can also be furnished in special lengths.

Varnished, with iron parts black.

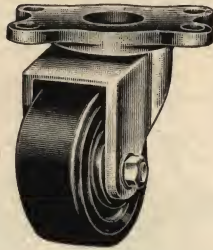
Length Feet	Width Inches	No. of Cross Bars	Side Rail Inches	Approx. Weight Pounds	Price Each
6	16 $\frac{1}{2}$	2	1 $\frac{3}{4}$ x3 $\frac{1}{2}$	40	\$7.00
7	16 $\frac{1}{2}$	2	1 $\frac{3}{4}$ x3 $\frac{3}{4}$	50	8.00
8	16 $\frac{1}{2}$	2	1 $\frac{3}{4}$ x3 $\frac{3}{4}$	55	9.00
10	16 $\frac{1}{2}$	3	1 $\frac{3}{4}$ x4	65	11.00
12	16 $\frac{1}{2}$	4	1 $\frac{3}{4}$ x4 $\frac{1}{4}$	79	13.00

Series 570 Payson Swivel Truck Casters

Extra Heavy Duty—Cast Alloy



Semi-Steel Wheel



Solid Rubber Wheel

Without king bolt. All parts removable, renewable and with lubrication.

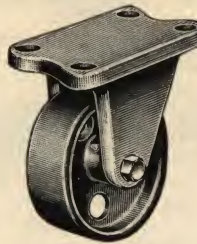
Add 3R to number for Hyatt roller bearing axles; RM for soft tread wheel, vulcanized on hard rubber; and T for all hard rubber wheel.

No.	Wheel Diam. Face Inches	Template Inches	Bolt Hole Diam. In.	Over-all Ht. In.	Cap. Lb. per Set (4)	Wt. Lb.
574	4x1 $\frac{3}{4}$	2 $\frac{5}{8}$ x3 $\frac{5}{8}$	$\frac{3}{8}$	5 $\frac{5}{8}$	2400	9
575	5x2	2 $\frac{7}{16}$ x4 $\frac{15}{16}$	$\frac{1}{2}$	6 $\frac{5}{8}$	3000	12
576	6x2	2 $\frac{7}{16}$ x4 $\frac{15}{16}$	$\frac{1}{2}$	7 $\frac{1}{2}$	4000	15 $\frac{1}{2}$
578	8x2 $\frac{1}{2}$	3 $\frac{3}{8}$ x5 $\frac{1}{4}$	$\frac{1}{2}$	10 $\frac{1}{4}$	6000	30

Semi-Steel Wheel		Solid Rubber Wheel	
Plain Bearing	Roller Bearing	Plain Bearing	Roller Bearing
No.	Each	No.	Each
574	\$3.00	574-3R	\$4.00
575	3.98	575-3R	4.98
576	4.53	576-3R	5.51
578	9.22	578-3R	11.33
574RM	\$3.40	574RM-3R	\$4.41
575RM	5.07	575RM-3R	6.07
576RM	5.84	576RM-3R	6.89
578RM	10.89	578RM-3R	13.11

Series 510 Payson Rigid Truck Casters

Extra Heavy Duty—Cast



Semi-Steel Wheel



Solid Rubber Wheel

All parts removable, renewable and with lubrication.

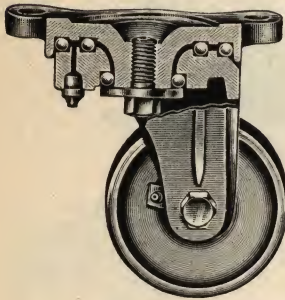
Add 3R to number for Hyatt roller bearing axles; RM for soft tread wheel, vulcanized on hard rubber; and T for all hard rubber wheel.

No.	Wheel Diam. Face Inches	Template Inches	Bolt Hole Diam. In.	Over-all Ht. In.	Cap. Lb. per Set (4)	Wt. Lb.
514	4x1 $\frac{3}{4}$	2 $\frac{5}{8}$ x3 $\frac{5}{8}$	$\frac{3}{8}$	5 $\frac{5}{8}$	2880	6
515	5x2	2 $\frac{7}{16}$ x4 $\frac{15}{16}$	$\frac{1}{2}$	6 $\frac{5}{8}$	3600	9 $\frac{1}{4}$
516	6x2	2 $\frac{7}{16}$ x4 $\frac{15}{16}$	$\frac{1}{2}$	7 $\frac{1}{2}$	4800	12
518	8x2 $\frac{1}{2}$	3 $\frac{3}{8}$ x5 $\frac{1}{4}$	$\frac{1}{2}$	10 $\frac{1}{4}$	7200	22

Semi-Steel Wheel		Solid Rubber Wheel	
Plain Bearing	Roller Bearing	Plain Bearing	Roller Bearing
No.	Each	No.	Each
514	\$1.53	514-3R	\$2.53
515	2.26	515-3R	3.33
516	2.45	516-3R	3.56
518	4.89	518-3R	7.00
514RM	\$2.33	514RM-3R	\$3.33
515RM	3.58	515RM-3R	4.56
516RM	3.89	516RM-3R	4.89
518RM	6.45	518RM-3R	8.33

Series 130 Payson Swivel Truck Casters

Heavy Duty—Cast Semi-Steel



Oblong base.

Semi-steel, regular face wheel is finished in gold lacquer.

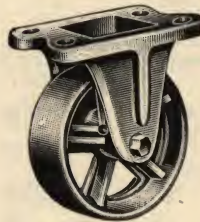
3R added to number is for Hyatt roller bearing axles; RM for soft tread wheel, vulcanized on hard rubber; and V for vulcanized rubber wheel. Change RM to T for all hard rubber wheel.

No.	Wheel Diam. Face Inches	Template Inches	Bolt Hole Diam. In.	Over-all Ht. In.	Cap. Lb. per Set (4)	Wt. Lb.
132	2 x1	1 $\frac{5}{8}$ x2 $\frac{13}{16}$	$\frac{1}{4}$	3 $\frac{3}{16}$	800	2
132 $\frac{1}{2}$	2 $\frac{1}{2}$ x1 $\frac{1}{8}$	1 $\frac{7}{8}$ x3 $\frac{1}{4}$	$\frac{3}{8}$	4	1000	3.2
133	3 x1 $\frac{1}{2}$	2 $\frac{1}{8}$ x3 $\frac{7}{8}$	$\frac{3}{8}$	4 $\frac{1}{2}$	1200	5.4
133 $\frac{1}{2}$	3 $\frac{1}{2}$ x1 $\frac{1}{2}$	2 $\frac{9}{16}$ x3 $\frac{11}{16}$	$\frac{3}{8}$	5 $\frac{1}{4}$	1500	6
134	4 x1 $\frac{1}{2}$	3 $\frac{1}{8}$ x4 $\frac{5}{8}$	$\frac{1}{2}$	6	1600	8.7
135	5 x2	3 $\frac{15}{16}$ x5 $\frac{1}{2}$	$\frac{1}{2}$	7	2500	16.7
136	6 x2 $\frac{1}{4}$	4 $\frac{11}{16}$ x6 $\frac{3}{8}$	$\frac{9}{16}$	8 $\frac{11}{16}$	3000	28.5
138	8 x3	6 x8	$\frac{5}{8}$	10 $\frac{1}{2}$	4000	55

Semi-Steel Wheel		Solid Rubber Wheel	
Plain Bearing	Roller Bearing	Plain Bearing	Roller Bearing
No.	Each	No.	Each
132	\$.93	132-3R	\$1.82
132 $\frac{1}{2}$	1.22	132 $\frac{1}{2}$ -3R	2.22
133	1.44	133-3R	2.89
133 $\frac{1}{2}$	1.87	133 $\frac{1}{2}$ -3R	3.33
134	2.11	134-3R	3.78
135	4.11	135-3R	5.55
136	7.22	136-3R	9.00
138	13.33	138-3R	15.55
132RM	\$1.18	132RM-3R	\$2.07
132 $\frac{1}{2}$ RM	1.78	132 $\frac{1}{2}$ RM-3R	2.67
133V	2.89	133V-3R	4.00
134V	4.56	134V-3R	5.67
135V	7.89	135V-3R	9.00
136V	12.89	136V-3R	14.67
138V	20.78	138V-3R	22.78

Series H220 Payson Rigid Truck Casters

Heavy Duty Cast Semi-Steel



Oblong base.

Add 3R to number for Hyatt roller bearing axles; RM for soft tread wheel, vulcanized on hard rubber; and T for all hard rubber wheel.

No.	Wheel Diam. Face Inches	Template Inches	Bolt Hole Diam. In.	Over-all Ht. In.	Cap. Lb. per Set (4)	Wt. Lb.
H222	2 x1	1 x3 $\frac{1}{8}$	$\frac{1}{4}$	2 $\frac{11}{16}$	700	1.25
H222 $\frac{1}{2}$	2 $\frac{1}{2}$ x1 $\frac{1}{8}$	1 $\frac{1}{4}$ x2 $\frac{3}{4}$	$\frac{1}{4}$	3 $\frac{3}{16}$	960	1.65
H223	3 x1 $\frac{1}{4}$	1 $\frac{3}{8}$ x3 $\frac{1}{4}$	$\frac{1}{4}$	4	1200	2.68
H223 $\frac{1}{2}$	3 $\frac{1}{2}$ x1 $\frac{1}{2}$	1 $\frac{3}{8}$ x3 $\frac{1}{4}$	$\frac{1}{4}$	4 $\frac{1}{8}$	1300	3.1
H224	4 x1 $\frac{1}{2}$	1 $\frac{11}{16}$ x3 $\frac{13}{16}$	$\frac{5}{16}$	4 $\frac{1}{2}$	1440	3.9
H224 $\frac{1}{2}$	4 $\frac{1}{2}$ x1 $\frac{5}{8}$	2 x4 $\frac{1}{16}$	$\frac{7}{16}$	5 $\frac{1}{4}$	1800	6.0
H225	5 x1 $\frac{5}{8}$	2 $\frac{1}{8}$ x4 $\frac{1}{2}$	$\frac{1}{2}$	6	2800	8.0
H226	6 x1 $\frac{3}{4}$	2 $\frac{1}{4}$ x5	$\frac{1}{2}$	7	3000	9.0
H227	7 x2 $\frac{1}{4}$	3 x6	$\frac{1}{2}$	8 $\frac{5}{16}$	3300	18.2
H228	8 x2 $\frac{1}{4}$	3 x6	$\frac{1}{2}$	8 $\frac{11}{16}$	3600	20.6

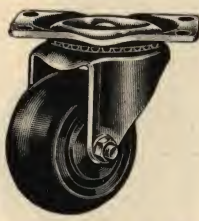
Semi-Steel Wheel		Solid Rubber Wheel	
Plain Bearing	Roller Bearing	Plain Bearing	Roller Bearing
No.	Each	No.	Each
H222	\$.44	H222-3R	\$1.33
H222 $\frac{1}{2}$	.53	H222 $\frac{1}{2}$ -3R	1.42
H223	.78	H223-3R	1.67
H223 $\frac{1}{2}$	.89	H223 $\frac{1}{2}$ -3R	2.00
H224	1.02	H224-3R	2.13
H224 $\frac{1}{2}$	1.44	H224 $\frac{1}{2}$ -3R	2.56
H225	1.52	H225-3R	2.67
H226	2.00	H226-3R	3.44
H227	4.09	H227-3R	5.53
H228	4.44	H228-3R	6.67
H222RM	\$.69	H222RM-3R	\$1.56
H222 $\frac{1}{2}$ RM	1.04	H222 $\frac{1}{2}$ RM-3R	1.93
H223RM	1.39	H223RM-3R	2.50
H223 $\frac{1}{2}$ RM	1.63	H223 $\frac{1}{2}$ RM-3R	2.74
H224RM	1.76	H224RM-3R	2.87
H225RM	2.89	H225RM-3R	4.00
H226RM	4.04	H226RM-3R	5.45
H228RM	8.56	H228RM-3R	10.56

No. 760 Payson Swivel Truck Casters

Medium Duty—Wrought Steel



Semi-Steel Wheel



Solid Rubber Wheel

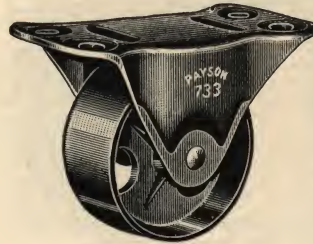
3R added to number is for Hyatt roller bearing axles; RM for soft tread wheel, vulcanized on hard rubber. Change RM to T for all hard rubber wheel.

No.	Wheel Diam. Face Inches	Template Inches	Bolt Hole Diam. In.	Over- all Ht. In.	Cap. Lb. per Set (4)	Wt. Lb.
761 $\frac{5}{8}$	1 $\frac{5}{8}$ x 1 $\frac{1}{16}$	1 x 2 $\frac{1}{8}$	$\frac{1}{4}$	2 $\frac{3}{8}$	600	.53
762	2 x $\frac{7}{8}$	1 x 2 $\frac{1}{8}$	$\frac{1}{4}$	2 $\frac{1}{2}$	600	.65
762 $\frac{1}{2}$	2 $\frac{1}{2}$ x 1 $\frac{1}{8}$	1 $\frac{3}{4}$ x 3	$\frac{5}{16}$	3 $\frac{1}{4}$	800	1.4
763	3 x 1 $\frac{1}{4}$	2 $\frac{3}{8}$ x 3 $\frac{3}{16}$	$\frac{5}{16}$	3 $\frac{7}{8}$	1000	2.
764	4 x 1 $\frac{1}{2}$	3 x 4	$\frac{3}{8}$	5	1200	4 $\frac{1}{4}$
765	5 x 1 $\frac{3}{4}$	3 $\frac{3}{4}$ x 4 $\frac{1}{2}$	$\frac{3}{8}$	6 $\frac{7}{16}$	1600	7 $\frac{1}{4}$
766	6 x 2	4 $\frac{1}{8}$ x 5 $\frac{1}{2}$	$\frac{3}{8}$	7 $\frac{3}{8}$	2400	11 $\frac{3}{4}$
768	8 x 2 $\frac{1}{4}$	4 $\frac{1}{8}$ x 5 $\frac{1}{2}$	$\frac{3}{8}$	9 $\frac{1}{2}$	3200	20 $\frac{1}{2}$

Semi-Steel Wheel			Solid Rubber Wheel		
Plain Bearing	Roller Bearing		Plain Bearing	Roller Bearing	
No.	Each	No.	Each	No.	Each
761 $\frac{5}{8}$	\$.22	761 $\frac{5}{8}$ RM	\$.38	762RM	.46
762	.25	762-3R	\$1.14	762 $\frac{1}{2}$ RM	.88
762 $\frac{1}{2}$	.46	762 $\frac{1}{2}$ -3R	1.35	762 $\frac{1}{2}$ RM-3R	1.78
763	.58	763-3R	1.47	763RM	1.16
764	1.10	764-3R	2.00	764RM	2.07
765	2.28	765-3R	3.29	765RM	3.64
766	2.74	766-3R	3.75	766RM	4.44
768	4.67	768-3R	6.67	768RM	10.22
				768RM-3R	12.00

Series 720-730 Payson Rigid Truck Casters

Medium Duty—Wrot-Steel



Semi-Steel Wheel

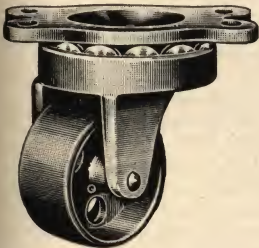
3R added to number is for Hyatt roller bearing axles; RM for soft tread wheel, vulcanized on hard rubber. Change RM to T for all hard rubber wheel.

No.	Wheel Diam. Face Inches	Template Inches	Bolt Hole Diam. In.	Over- all Ht. In.	Cap. Lb. per Set (4)	Wt. Lb.
722	2 x $\frac{7}{8}$	3 $\frac{1}{4}$ x 2 $\frac{1}{16}$	$\frac{5}{16}$	2 $\frac{3}{16}$	720	.63
732 $\frac{1}{2}$	2 $\frac{1}{2}$ x 1 $\frac{1}{8}$	1 $\frac{3}{16}$ x 4	$\frac{5}{16}$	3 $\frac{1}{4}$	960	1.4
733	3 x 1 $\frac{1}{4}$	1 $\frac{3}{16}$ x 4	$\frac{5}{16}$	3 $\frac{3}{8}$	1200	2.1
73403 $\frac{1}{2}$	3 $\frac{1}{2}$ x 1 $\frac{1}{2}$	1 $\frac{3}{4}$ x 5	$\frac{5}{16}$	4 $\frac{1}{16}$	1440	3.15
734	4 x 1 $\frac{1}{2}$	1 $\frac{3}{4}$ x 5	$\frac{3}{8}$	5	1440	2.75
735	5 x 1 $\frac{3}{4}$	2 $\frac{1}{2}$ x 5	$\frac{3}{8}$	6 $\frac{7}{16}$	1920	5.0
736	6 x 2	2 $\frac{1}{2}$ x 5	$\frac{3}{8}$	7 $\frac{3}{8}$	2880	8.0

Semi-Steel Wheel			Solid Rubber Wheel		
Plain Bearing	Roller Bearing		Plain Bearing	Roller Bearing	
No.	Each	No.	Each	No.	Each
722	\$.21	722-3R	\$1.11	722RM	\$.47
732 $\frac{1}{2}$	.40	732 $\frac{1}{2}$ -3R	1.29	732 $\frac{1}{2}$ RM	.78
733	.46	733-3R	1.33	733RM	.96
73403 $\frac{1}{2}$	.67	73403 $\frac{1}{2}$ -3R	1.78	73403 $\frac{1}{2}$ RM	1.51
734	.72	734-3R	1.62	734RM	1.60
735	1.22	735-3R	2.22	735RM	2.40
736	1.80	736-3R	2.78	736RM	3.44
				736RM-3R	4.44

Series 180-190 Payson Swivel Truck Casters

Medium Duty—Cast Semi-Steel



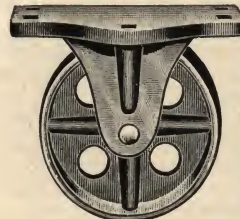
Oblong base. Anti-friction swivel. Steel discs revolve in large diameter raceway.

3R added to number is for Hyatt roller bearing axles; RM for soft tread wheel, vulcanized on hard rubber. Change RM to T for all hard rubber wheel.

No.	Wheel Diam. Face Inches	Template Inches	Bolt Hole Diam. In.	Over- all Ht. In.	Cap. Lb. per Set (4)	Wt. Lb.
184	1 $\frac{5}{8}$ x $\frac{11}{16}$	1 x 2 $\frac{1}{8}$	$\frac{3}{16}$	2 $\frac{1}{4}$	600	.65
186	2 x $\frac{7}{8}$	1 $\frac{1}{16}$ x 2 $\frac{1}{16}$	$\frac{3}{16}$	2 $\frac{1}{8}$	600	1.00
188	2 $\frac{1}{2}$ x 1 $\frac{1}{4}$	1 $\frac{1}{16}$ x 3 $\frac{1}{4}$	$\frac{5}{16}$	3 $\frac{5}{8}$	800	2.25
190	3 x 1 $\frac{3}{8}$	2 $\frac{1}{8}$ x 3 $\frac{3}{8}$	$\frac{5}{16}$	4 $\frac{1}{8}$	1000	3.7
H190	3 x 1 $\frac{1}{2}$	2 $\frac{1}{8}$ x 3 $\frac{3}{8}$	$\frac{5}{16}$	4 $\frac{1}{2}$	1200	4.5
191	3 $\frac{1}{2}$ x 1 $\frac{1}{16}$	2 $\frac{1}{8}$ x 3 $\frac{3}{8}$	$\frac{5}{16}$	4 $\frac{7}{8}$	1100	4.6
L190	4 x 1 $\frac{3}{8}$	2 $\frac{1}{8}$ x 3 $\frac{3}{8}$	$\frac{5}{16}$	5 $\frac{1}{2}$	1200	4.75
192	4 x 2 $\frac{1}{4}$	2 $\frac{1}{4}$ x 4 $\frac{7}{8}$	$\frac{3}{8}$	5 $\frac{7}{8}$	1600	9.4
193	5 x 2 $\frac{1}{4}$	2 $\frac{1}{4}$ x 4 $\frac{7}{8}$	$\frac{3}{8}$	6 $\frac{7}{8}$	2400	11.7
194	6 x 2 $\frac{1}{4}$	3 $\frac{3}{4}$ x 5 $\frac{3}{4}$	$\frac{5}{16}$	7 $\frac{3}{4}$	2400	16.9

Semi-Steel Wheel			Solid Rubber Wheel		
Plain Bearing	Roller Bearing		Plain Bearing	Roller Bearing	
No.	Each	No.	Each	No.	Each
184	\$.33	184-3R	\$.49	184RM	.69
186	.44	186-3R	\$1.33	186RM	1.17
188	.67	188-3R	1.56	188RM	2.06
190	.98	190-3R	1.87	190RM	2.60
H190	1.20	H190-3R	2.20	H190RM	3.04
191	1.29	191-3R	2.29	191RM	3.31
L190	1.33	L190-3R	2.33	L190RM	3.56
192	2.67	192-3R	4.00	192RM	5.33
193	3.22	193-3R	4.22	193RM	6.33
194	4.44	194-3R	5.78	194RM	8.56

Series 260-210 Payson

Rigid Truck Casters
Medium Duty—Cast Semi-Steel

Oblong base. 3R added to number is for Hyatt roller bearing axles; RM for soft tread wheel, vulcanized on hard rubber; and V for vulcanized rubber wheel. Change RM to T for all hard rubber wheel.

No.	Wheel Diam. Face Inches	Template Inches	Bolt Hole Diam. In.	Overall Ht. In.	Cap. Lb. per Set (4)	Wt. Lb.
263	3 x 2	2 $\frac{1}{16}$ x 1 $\frac{11}{16}$	No. 14FH	3 $\frac{3}{8}$	960	2.55
264	4 x 2	1 $\frac{7}{8}$ x 3 $\frac{5}{8}$ x 1 $\frac{1}{16}$	No. 14FH	4 $\frac{9}{16}$	1200	4.15
212	2 x $\frac{7}{8}$	2 $\frac{3}{4}$ x 1 $\frac{1}{4}$	No. 12FH	2 $\frac{3}{8}$	720	.83
212 $\frac{1}{2}$	2 $\frac{1}{2}$ x 1 $\frac{1}{4}$	2 $\frac{7}{8}$ x 1 $\frac{1}{8}$	No. 14FH	2 $\frac{3}{16}$	840	1.2
213	3 x 1 $\frac{3}{8}$	3 $\frac{3}{16}$ x 1 $\frac{5}{8}$		3 $\frac{5}{8}$	960	2.5
214	4 x 1 $\frac{3}{8}$	3 $\frac{3}{4}$ x 1 $\frac{7}{8}$		4 $\frac{7}{16}$	1200	3.35
214 $\frac{1}{2}$	4 $\frac{1}{2}$ x 1 $\frac{1}{2}$	1 $\frac{11}{16}$ x 4 $\frac{1}{4}$ x 1 $\frac{1}{4}$		4 $\frac{7}{8}$	1320	5.86
215	5 x 1 $\frac{1}{2}$	1 $\frac{5}{8}$ x 4 $\frac{3}{8}$ x 1 $\frac{1}{4}$		5 $\frac{1}{2}$	1440	6
216	6 x 1 $\frac{3}{4}$	2 $\frac{3}{8}$ x 5 $\frac{7}{8}$ x 1 $\frac{1}{4}$		6 $\frac{1}{16}$	1920	9.1
217	7 x 2 $\frac{1}{8}$	2 $\frac{1}{4}$ x 6 $\frac{1}{4}$ x 1 $\frac{1}{8}$		7 $\frac{3}{4}$	2880	14.4
218	8 x 2 $\frac{1}{4}$	2 $\frac{3}{4}$ x 7 $\frac{3}{8}$ x 2 $\frac{1}{8}$		8 $\frac{7}{8}$	3840	21.7
219	9 x 2 $\frac{1}{2}$	2 $\frac{7}{8}$ x 8 $\frac{1}{4}$ x 2		10 $\frac{1}{2}$	4800	34.3
2110	10 x 2 $\frac{1}{2}$	2 $\frac{7}{8}$ x 8 $\frac{1}{4}$ x 2		11	41.8	

Semi-Steel Wheel			Solid Rubber Wheel		
Plain Bearing	Roller Bearing		Plain Bearing	Roller Bearing	
No.	Each	No.	Each	No.	Each
263	\$.84	263-3R	\$2.67	212RM	\$.58
264	1.56	264-3R	2.22	212 $\frac{1}{2}$ RM	.82
212	.36	212-3R	1.22	213RM	1.24
212 $\frac{1}{2}$	.44	212 $\frac{1}{2}$ -3R	1.33	214RM	1.69
213	.60	213-3R	1.56	215RM	2.71
214	.89	214-3R	2.00	216RM	3.67
214 $\frac{1}{2}$	1.33	214 $\frac{1}{2}$ -3R	2.44	218RM	10.78
215	1.53	215-3R	2.56	219V	17.33
216	2.44	216-3R	3.44	2110V	20.67
217	3.67	217-3R	5.11	212RM-3R	\$1.47
218	5.22	218-3R	7.22	212 $\frac{1}{2}$ RM-3R	1.71
219	8.33	219-3R	10.33	213RM-3R	2.22
2110	10.22	2110-3R	12.00	214RM-3R	2.80
				215RM-3R	3.82
				216RM-3R	4.78
				218RM-3R	11.11
				219V-3R	18.00
				2110V-3R	21.15

Darnell 02 Series Light Medium Duty Industrial Casters



These casters have the Darnell patented double ball-bearing swivel with carbonized, hardened, perfectly round balls that roll freely in hardened races. Single wheel of semi-steel runs on hardened steel bushings. Rust-proofed with cadmium-plating and finished in laguna blue. String guards are standard equipment on the steel wheel models.

Swivel Casters

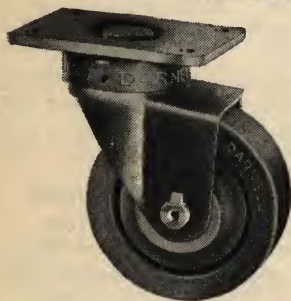
Model No.	Each	Top Plate C. of C. of 1/4-In. Holes	Size over All of Plate In.	WHEEL, In. Diam. Width	Approx. Height In.	Wt. Lbs. Each
1202-CI	\$1.55	1 5/8 x 2 7/8	2 3/8 x 3 5/8	2	1	2 7/8
1202 1/2-CI	1.90	1 5/8 x 2 7/8	2 3/8 x 3 5/8	2 1/2	1	3 1/2

Stationary Casters

1002-SCI	\$1.20	1 x 3	1 1/2 x 3 7/8	2	1	2 7/8
1002 1/2-SCI	1.50	1 x 3	1 1/2 x 3 7/8	2 1/2	1	3 1/2

May be ordered with rubber tread wheels instead of steel wheels at no extra cost. To order, substitute the suffix D for soft rubber, K for rubber fibre, and H for hard rubber treads in place of CI.

Darnell 60 Series Light Medium Duty Industrial Casters



Furnished with angle fittings for attachment to angle irons; with pipe threads for pipe application, or threaded stem for "through holes".

String guards, Alemite lubrication and double ball bearing, fully enclosed dust-proof swivel are standard equipment.

Wearing parts carbonized and hardened; exposed parts cadmium-plated.

Furnished with semi-steel or rubber tread wheels adaptable to all types of floors.

Finished in Darnell laguna blue lacquer.

Swivel Casters

Semi-Steel Tread Wheels

No.	Each	Wheel Size Diam. & Width, In.	Top Plate Size C-C of 1/4-In. Holes, In.	Plate Overall Inches	Approx. Height Overall Inches	Ship. Wt. Lbs. Each
16-62 1/2-CI	\$2.50	2 1/2 x 1 1/4	1 3/4 x 2 7/8	2 1/2 x 3 5/8	3 11/16	2 1/2
16-63 1/2-CI	2.75	3 1/2 x 1 1/4	1 3/4 x 2 7/8	2 1/2 x 3 5/8	4 11/16	3
16-65-CI	3.25	5 x 1 1/4	1 3/4 x 2 7/8	2 1/2 x 3 5/8	6 3/16	4

Rubber Tread Wheels

16-62 1/2-D	\$2.50	2 1/2 x 1 1/4	1 3/4 x 2 7/8	2 1/2 x 3 5/8	3 11/16	1 3/4
16-63 1/2-D	2.75	3 1/2 x 1 1/4	1 3/4 x 2 7/8	2 1/2 x 3 5/8	4 11/16	2 1/2
16-65-D	3.25	5 x 1 1/4	1 3/4 x 2 7/8	2 1/2 x 3 5/8	6 3/16	2 3/4

Stationary Casters

Semi-Steel Tread Wheels

17-62 1/2-SCI	\$1.85	2 1/2 x 1 1/4	1 3/4 x 3 3/8	2 1/2 x 4 1/8	3 11/16	2 1/4
18-63 1/2-SCI	2.25	3 1/2 x 1 1/4	1 3/4 x 3 3/8	2 1/2 x 4 1/8	4 11/16	2 3/4
19-65-SCI	2.80	5 x 1 1/4	1 3/4 x 4 1/8	2 1/2 x 4 1/8	6 3/16	4

Rubber Tread Wheels

17-62 1/2-SD	\$1.85	2 1/2 x 1 1/4	1 3/4 x 3 3/8	2 1/2 x 4 1/8	3 11/16	1 1/2
18-63 1/2-SD	2.25	3 1/2 x 1 1/4	1 3/4 x 3 3/8	2 1/2 x 4 1/8	4 11/16	2 1/4
19-65-SD	2.80	5 x 1 1/4	1 3/4 x 4 1/8	2 1/2 x 4 1/8	6 3/16	2 3/4

For rubber fibre wheels substitute K for D in model no.; for hard rubber fibre wheels H for D.

Darnell 70 Series Medium Duty Industrial Casters



This caster has the Darnell patented ball bearing swivel with carbonized, hardened, perfectly round balls. These balls roll freely in large hardened races which make for easy swiveling. Made rust-proof with cadmium plating and finished in laguna blue.

Alemite push-type lubrication, using round nose nipple is provided. String guards are standard equipment.

Swivel Casters Semi-Steel Tread

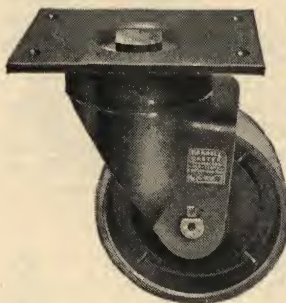
Model No.	Each	WHEEL, In. Diam. Width	Top Plate C. to C. of 1/4-In. Holes Inches	Size Over All of Plate Inches	Approx. Height Over All Inches	Wt. Lbs. Each
1-73-CI	\$4.00	3 1 3/8	2 5/8 x 3 5/8	3 1/2 x 4 1/2	4 7/16	3 1/2
1-74-CI	4.35	4 1 3/8	2 5/8 x 3 5/8	3 1/2 x 4 1/2	5 7/16	4
1-75-CI	4.70	5 1 3/8	2 5/8 x 3 5/8	3 1/2 x 4 1/2	6 7/16	5
1-73-K	\$4.00	3 1 3/8	2 5/8 x 3 5/8	3 1/2 x 4 1/2	4 7/16	3
1-74-K	4.35	4 1 3/8	2 5/8 x 3 5/8	3 1/2 x 4 1/2	5 7/16	3 3/4
1-75-K	4.70	5 1 3/8	2 5/8 x 3 5/8	3 1/2 x 4 1/2	6 7/16	4

Stationary Casters

14-74-S-CI	\$3.35	4 1 3/8	3x4	4x5	4 7/16	4
14-75-S-CI	3.70	5 1 3/8	3x4	4x5	5 7/16	5
14-75-SS-CI	4.00	5 1 3/8	3x4	4x5	6 7/16	5
14-74-S-K	\$3.35	4 1 3/8	3x4	4x5	4 7/16	3 3/4
14-75-S-K	3.70	5 1 3/8	3x4	4x5	5 7/16	4
14-75-SS-K	4.00	5 1 3/8	3x4	4x5	6 7/16	4

For hard rubber fibre wheels substitute H for K in model no.; for soft rubber wheels substitute D for K.

Darnell 600 Series Heavy Duty Industrial Casters



Dust-proof and rust-proof. Double ball bearing swivel with all wearing parts carbonized and hardened.

Wheel bearings are of the roller type in all models.

Lubrication is by means of Alemite pressure system, using round nose nipple on gun. String guards are regularly furnished, except on 8-inch rubber tired wheel; they insure easy rolling.

Laguna blue finish.

Swivel Type

No.	Each	Wheel Width at Diam. Tread Hub In. In.	Width Top Plate over All, In.	Bolt Holes C. to C. In.	Diam. Bolt Holes In.	Ht. In.	Wt. Lbs.
*6-605-RCI	\$10.70	5 2 3/16	2 7/8	5 1/4 x 7 1/8	3 3/8 x 5 1/4	1 1/2	7 1/16 14 1/4
*6-605-RK	10.70	5 2 3/16	2 7/8	5 1/4 x 7 1/8	3 3/8 x 5 1/4	1 1/2	7 1/16 11
*6-606-RCI	12.00	6 2 3/16	2 7/8	5 1/4 x 7 1/8	3 3/8 x 5 1/4	1 1/2	8 3/16 17 1/4
*6-606-RK	12.00	6 2 3/16	2 7/8	5 1/4 x 7 1/8	3 3/8 x 5 1/4	1 1/2	8 3/16 15
*6-608-RCI	13.35	8 2 3/4	2 3/4	5 1/4 x 7 1/8	3 3/8 x 5 1/4	1 1/2	10 3/16 23 1/2
*6-6A8-TK	16.40	8 1 3/4	2 3/4	5 1/4 x 7 1/8	3 3/8 x 5 1/4	1 1/2	10 3/16 14 1/2

Stationary Type

*6-606-RSCI	\$8.00	5 2 3/16	2 7/8	5 1/4 x 7 1/8	3 3/8 x 5 1/4	1 1/2	7 1/16 11 1/2
*6-606-RSK	8.00	5 2 3/16	2 7/8	5 1/4 x 7 1/8	3 3/8 x 5 1/4	1 1/2	7 1/16 9 3/8
*5-606-RSCI	8.00	6 2 3/16	2 7/8	5 1/4 x 5 1/2	4 3/8 x 4 1/2	3/8	8 3/16 12 1/2
*5-606-RSK	8.00	6 2 3/16	2 7/8	5 1/4 x 5 1/2	4 3/8 x 4 1/2	3/8	8 3/16 10 1/2
*2-608-RSCI	8.95	8 2 3/4	2 3/4	5 x 5 1/2	4 1/8 x 4 1/2	3/8	10 3/16 16 3/4
*2-6A8-TSK	12.00	8 1 3/4	2 3/4	5 x 5 1/2	4 1/8 x 4 1/2	3/8	10 3/16 10 3/8

*Semi-steel tread.

†Rubber tread.

We are in position to supply many items not shown in this catalogue and shall be pleased to receive your inquiries.

Darnell 100 Series Heavy Duty Industrial Casters



4-Inch Wheel
Swivel Caster
with Rubber Fibre Tread



5-Inch Wheel
Stationary Caster
with Rubber Fibre Tread

Stationary casters have wheels one inch larger in diameter than in the swivel casters they match. For example, the 5-inch stationary caster matches the height of the 4-inch swivel caster.

Double ball bearing swivel with races directly above each other, reduce swiveling effort to a minimum. Races are fully inclosed, preventing dirt and moisture from getting in and grease from getting out.

Adjustable center retainer is made extra heavy. Is adjustable so that heavy wear may be obtained. Adjustment is made by loosening king bolt to permit one half turn of the yoke. It is not necessary to disassemble caster.

King bolt is extra large and strong as the entire strain on the caster is supported by it. Castellated nut prevents bolt from loosening. Reinforcing washer is held in place by castellated nut and cotter pin and supports the swivel and yoke assembly. Extreme rigidity is provided.

Axle is extra strong and when assembled makes a rigid assembly of bushing, string guard and yoke. It is also bored for pressure greasing by Alemite push-type gun. Alemite push-type lubrication, using round nose nipple, is provided.

Special semi-steel wheel is composed of steel properly alloyed with iron. Face of tread is accurately machined and centered. Extra thickness of rim prevents breakage. Regularly furnished with slight crown but may be had flat on order.

No reclaimed rubber enters into the construction of the rubber fibre treads. Due to this fact, and because the rubber fibre treads contain the proper percentage of long staple cotton, there can be no stretch under normal loads. All rubber fibre treads or aluminum alloy treads are readily replaceable.

All Darnell Industrial Casters for heavy duty are rust-proof cadmium plated and finished in laguna blue.

Swivel Casters Semi-Steel Tread

Model No.	Each	WHEEL, IN. Diam. Width	Top Plate Diam. C. to C. Inches	Size Bolt Holes of Plate Over All Inches	Approx. Height of All Inches	Wt. Lbs. Each
*103-CI	\$6.00	3 1 1/2	2 3/8 x 3 5/8	3 1/2 x 4 1/2	4 7/8	6 1/2
*104-CI	6.70	4 1 3/4	2 3/8 x 3 5/8	3 1/2 x 4 1/2	5 7/8	7
*105-CI	7.35	5 1 7/8	2 3/8 x 3 5/8	3 1/2 x 4 1/2	7 1/16	8 1/4
Rubber Fibre Tread						
104-K	\$6.70	4 1 3/4	2 3/8 x 3 5/8	3 1/2 x 4 1/2	5 7/8	5
*105-K	7.35	5 1 7/8	2 3/8 x 3 5/8	3 1/2 x 4 1/2	7 1/16	6 1/2

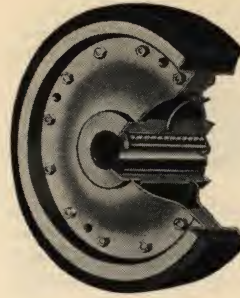
Stationary Casters

Semi-Steel Tread						
*103-SCI	\$3.35	3 1 1/2	2 3/8 x 3 5/8	4 x 5	3 3/16	2 3/4
*104-SCI	4.00	4 1 3/4	2 3/8 x 3 5/8	4 x 5	4 7/8	4 1/2
*105-SCI	4.70	5 1 7/8	2 3/8 x 3 5/8	4 x 5	5 7/8	6 3/4
1505-RSCI	4.80	5 1 7/8	3 1/2 x 4	4 1/2 x 5	7 1/16	7 3/4
Rubber Fibre Tread						
104-SK	\$4.00	4 1 3/4	2 3/8 x 3 5/8	4 x 5	4 7/8	3 1/4
*105-SK	4.70	5 1 7/8	2 3/8 x 3 5/8	4 x 5	5 7/8	4 1/2
*106-RSSK	5.70	6 1	2 3/8 x 3 5/8	4 x 5	6 3/4	5
*1505-RSK	4.80	5 1 7/8	3 1/2 x 4	4 1/2 x 5	7 1/16	5 3/4

*Hyatt Type RBC—Heliflex 19085 roller bearing furnished at extra charge.

Unless otherwise specified, semi-steel wheels are furnished. Suffix K indicates rubber fibre tread. Suffix D indicates soft rubber tread. Suffix A indicates aluminum alloy tread.

Darnell E-Z Roll Wheels



Made especially for use on 2-wheel hand trucks, platform trucks, trailers, etc.

Treads will not stretch, nor become loose on wheels; they are made soft to give maximum protection to floors and are replaceable.

Constructed so that elongation is entirely eliminated. Flat base of tread is of non-stretchable rubber fibre material tapered at flat base.

Zerk lubrication. Roller bearing, with renewable outer race. Wheel bearings are made to fit axles 1 1/4 inches or less in diameter. Hardened and ground spanner bushings are furnished for axles 1 1/8 inches or less in diameter.

Cadmium-plated hub guards keep dirt out and grease in.

6-Inch, with Short Hub

Diameter, 6 inches. Tread face width, 1 5/8 inches; hub length, 2 inches. Shipping weight, 3 1/2 pounds.

No. TB-106-WD furnished with 5/8-inch bore. No. TG-106-WD furnished with 3/4-inch bore.

6-Inch Wheel with Short Hub, Complete.....each \$4.50
Tire (Replacement).....each 2.10

8-Inch, with Short Hub

Diameter, 8 inches. Tread face width, 1 3/4 inches; hub length, 2 3/4 inches. Shipping weight, 8 3/4 pounds.

No. TB-1A08-WD furnished with 5/8, 3/4, 7/8, 1, 1 1/16 and 1 1/8-inch bore. No. TG-1A08-WD furnished in 1 3/16 and 1 1/4-inch bore.

8-Inch Wheel with Short Hub, Complete.....each \$9.90
Tire (Replacement).....each 3.25

9-inch, with Short Hub

Diameter, 9 inches. Tread face width, 1 3/4 inches; hub length, 2 3/4 inches. Shipping weight, 10 pounds.

No. TB-1A09-WD made in 5/8, 3/4, 7/8, 1, 1 1/16 and 1 1/8-inch bore.

No. TG-1A09-WD made in 1 3/16 and 1 1/4-inch bore.

9-Inch Wheel with Short Hub, Complete.....each \$12.00
Tire (Replacement).....each 5.00

9-Inch Wheel with Short Hub and 2 1/2-Inch Face, Complete.....each 15.00
Tire (Replacement).....each 6.75

10-Inch, with Short Hub

Diameter, 10 inches. Tread face width, 2 inches; hub length, 2 3/4 inches. Shipping weight, 10 1/2 pounds.

No. TB-1A10-WD furnished in 5/8, 3/4, 7/8, 1, 1 1/16 and 1 1/8-inch bore.

No. TG-1A10-WD furnished in 1 3/16 and 1 1/4-inch bore.

10-Inch Wheel with Short Hub, Complete.....each \$12.00
Tire (Replacement).....each 4.75

12-Inch, with Long Hub

Diameter, 12 inches. Tread face width, 2 inches; hub length, 3 3/4 inches. Shipping weight, 14 pounds.

No. TLB-1A12-WD furnished in 5/8, 3/4, 7/8, 1, 1 1/16 and 1 1/8-inch bore.

No. TLG-1A12-WD furnished in 1 3/16 and 1 1/4-inch bore.

12-Inch Wheel with Long Hub, Complete.....each \$16.50
Tire (Replacement).....each 8.75

Acme Ball Bearing Furniture Casters

Counter Sunk—Round Plate



These casters never break or get out of order and move in any direction with the least possible effort. Will not tear rugs or carpets, will not bind or rust, will not mark floors.

Will make furniture look better, last longer and roll easier.

Packed 1 set in a box; 100 sets in a case.

Size Ball Inches	Ship. Wt., Lbs. per Case	PRICE, PER SET OF 4		
		No. 655 Galvanized	No. 656 Brassed	No. 657 Nickel
3/4	36	\$.65	\$.65	\$.65
1	75	.70	.70	.70
1 1/8	93	.75	.75	.75
1 1/4	110	.80	.80	.80



Darnell K Series Furniture Casters

Hard or soft rubber, oilless bearing wheels. Double ball-bearing swivel.

May be used for hotel and household beds, and for dressers, davenport or dining room tables. Also very satisfactory for use on swivel office chairs.

Use D wheel casters on all floors except carpets and oiled floors. Use H wheel casters on carpets and rugs. Stem and socket type. Oxidized finish.

Furnished with S stem and toothed track plate No. 4.

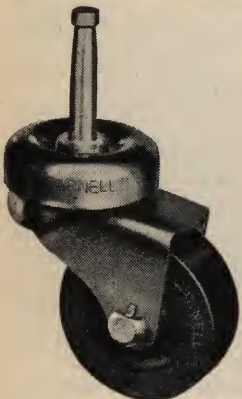
Soft Rubber Tread

No.	U-7-D	U-S-9-D
Per Set of 4.....	\$2.70	3.00
Wheel Size, Diameter and Width.....in.	1 3/4 x 3/4	2 x 3/4
Approximate Height.....in.	2 3/8	2 5/8

Hard Rubber Tread

No.	U-7-H	U-S-9-H
Per Set of 4.....	\$2.70	3.00
Wheel Size, Diameter and Width.....in.	1 3/4 x 3/4	2 x 3/4
Approximate Height.....in.	2 3/8	2 5/8

Darnell Office Chair Casters



No. U-50-D

For use on office furniture for ease of movement and floor protection. Hard or soft rubber, oilless bearing wheels. Double, ball-bearing swivel.

Scientifically constructed swivel takes care of the lateral thrust caused by the offset of the wheel.

With S stem and No. 4 socket. Oxidized copper finish.

Soft Rubber Tread

The D caster is designed for all types of floors and floor coverings except carpets.

No.	U-50-D	*U-52-D
Per Set of 4...	\$4.00	4.70
Wheel Size, Diam. and Width...in.	2 x 3/4	2 x 7/16
Approximate Height in.	2 7/8	2 7/8
Wt.....lb.	2 3/8	2 7/16

Hard Rubber Tread

The H caster is for use on carpets.

No.	U-50-H	*U-52-H
Per Set of 4.....	\$4.00	4.70
Wheel Size, Diameter and Width.....in.	2 x 3/4	2 x 7/16
Approximate Height.....in.	2 7/8	2 7/8
Weight per set.....pounds.	2 3/8	2 7/16

*Has twin rubber wheels; width shown of one wheel only.

Darnell E-Z-Turn Casters



The easy-rolling, quiet rubber wheel contains just the right proportion of anti-oxidant to prevent the rubber from becoming brittle and hard.

It should never have to be replaced because of breakage or wear. Will not bind, stick, skid or damage furniture.

This caster is interchangeable with nearly every other type of caster. A new set of sockets is provided with each set of stem type casters.

No.:	Stem EZ-1-D-1 5/8	Stem EZ-3-D-2	Flat Top EZ-3-1-D-1 5/8	Flat Top EZ-3-3-D-2
Per Set of 4.	\$1.90	2.20	1.90	2.20
Diam. Wheel in.	1 5/8	2	1 5/8	2
Wt. per Set. lb.	1 1/4	1 3/8	1 1/8	1 3/8

Bassick Harvard Ball Bearing Casters For Wood or Metal Furniture—Interchangeable



This caster has the special X44 detachable pintle and is furnished standard with grip-neck socket for wood furniture and is interchangeable with metal bed sockets.

Made of heavy gage steel with a large ball race. Brass finishes.

Packed 6 sets per box.

Universal Wheels

No.	Brass Plated Each	Size	Wheel Diam. In.	Width Tread In.	Aver. Wt. per Set
5468X44	\$.55	5	1 1/4	5/8	12
7468X44	.65	7	1 5/8	3/4	16

Universal Soft Rubber Tread Wheels

No.	Soft Rubber Each	Size	Wheel Diam. In.	Width Tread In.	Aver. Wt. per Set
5468-SX44	\$.60	5	1 1/4	5/8	12
7468-SX44	.75	7	1 5/8	3/4	16

Bassick Diamond Velvet Furniture Casters Top Bearing—With Atlasite Plain Bearing Wheel

Top bearing—direct load is carried on top of pintle on a specially treated fibre bearing. A second fibre bearing at base of socket eliminates metal to metal contact and friction. Pintle and bearing surfaces are enclosed, eliminating troubles from rust and dirt.

Wheel is of Atlasite, an exceptionally strong and durable composition which is not affected by heat or moisture and cannot rust or become discolored.

Copper oxidized finish.

Packed 1 set in a box.



No.	3049	5049	7049
Per Set.....	\$.70	.80	.90
Diam. of Wheel.....inches	1 1/16	1 1/4	1 5/8
Bore for Socket.....inches	3/8	3/8	3/8
Wt. per Set.....ounces	8	10	15



Bassick Steel Gem Roller-Bearing Plate Casters

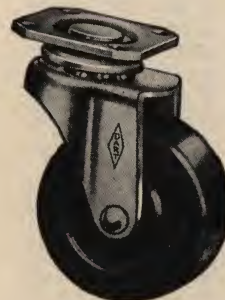
Iron Wheel

For general utility purposes under boxes, chests, light dollies, etc., in the store, shop or factory.

Furnished in plain steel finish. Packed 1 set in a box.

No.	Per Set	Diameter Wheel Inches	Plate Size Inches	Over All Height Inches	Weight Ounces per Set
3511	\$.48	1 1/16	1 1/2 x 1 1/2	1 5/8	12
5511	.54	1 1/4	1 3/4 x 1 1/2	1 7/8	15
7511	.68	1 5/8	1 7/8 x 1 7/8	2 3/8	20
8511	.90	1 3/4	2 1/4 x 2 1/4	2 1/2	36
9511	1.10	2	2 1/4 x 2 1/4	2 11/16	42

Bassick Diamond-Dart Casters



Easy, full floating swiveling action. Ball bearing; plate construction. Particularly recommended for miscellaneous household furniture use.

Plate size, 1 1/2 x 1 1/2 inches.

Packed 1 set in a box.

With Universal Solid Tread Composition Wheels

No.	Each	Wheel Diam. In.	Overall Height In.	Wt. Oz. per Set
5268	\$.75	1 1/4	1 13/16	16
7268	.90	1 5/8	2 1/4	19

With Universal Soft Rubber Tread Composition Wheels

No.	Each	Wheel Diam. In.	Overall Height In.	Wt. Oz. per Set
5268-S	\$.75	1 1/4	1 13/16	16
7268-S	.90	1 5/8	2 1/4	19

Bassick Diamond Arrow Ball-Bearing Interchangeable Casters For Wood or Metal Furniture



Standard finish is oxidized copper.

Furnished standard with No. 3 grip-neck socket for $\frac{3}{8}$ -inch bore with 1-inch plate for wood furniture. Stems fit Bassick detachable metal bed sockets. Packed 1 set in box.

	Baco (Protective Tread) Wheel		Atlasite (Solid Tread) Wheel	
No.	9696x42	7696x42	9699x42	7699x42
Per Set of 4 ..	\$2.00	1.50	2.00	1.50
Size No.	9	7	9	7
Wheel Diam. in.	2	1 $\frac{5}{8}$	2	1 $\frac{5}{8}$
Tread Width in.	$\frac{7}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{3}{4}$
Wt. per Set. oz.	24	18	24	18

Domes of Silence



Made of high grade hardened steel, specially treated to give frictionless surface.

In sizes: $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, $1\frac{1}{8}$ and $1\frac{1}{2}$ -inch. Packed in 2 styles, assorted or straight.

Assortment D-19 sizes are packed 1 dozen sets each $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$ and $\frac{7}{8}$ -inch. Straight sizes packed $\frac{1}{2}$ gross sets of one size in display box.

Order by sizes, or if small assortment, order D-19.	
Assortment D-19	per $\frac{1}{2}$ gross sets
Straight Sizes $\frac{3}{8}$ to $\frac{7}{8}$ -Inch	per gross sets
Straight Sizes $1\frac{1}{8}$ -Inch	per gross sets
Straight Sizes $1\frac{1}{2}$ -Inch	per gross sets
	\$3.00
	9.00
	13.50
	27.00

In Bulk

Sizes $\frac{3}{8}$ to $\frac{7}{8}$ -inch are packed 1000 sets of a size in a package; $1\frac{1}{8}$ and $1\frac{1}{2}$ -inch, 500 sets in a package.

$\frac{3}{8}$ to $\frac{7}{8}$ -Inch	per 1000 sets
$1\frac{1}{8}$ -Inch	per 1000 sets
$1\frac{1}{2}$ -Inch	per 1000 sets
	\$30.00
	65.00
	130.00

Bassick Drive-On NoMar Furniture Rests

The Drive-On NoMar Rest is for furniture which is not bored for casters. It is unnecessary to bore a hole, as this rest will drive into any furniture leg. It will not split the leg and will not become loose. A convenient driving tool is furnished with each set.



A tilting joint allows the broad, flat base to remain flat on the floor when furniture is tilted.

The base is of atlasite, a special material which will not break or chip. It is dark brown and cannot rust or become discolored. The base used should be slightly larger than the bottom of the leg.

No.	NR-20	NR-30	NR-40
Per Set of 4	\$1.45	.70	.90
Diameter of Base	inches 1 $\frac{1}{2}$	2	2 $\frac{1}{2}$
Weight, per Set	ounces 4	7	8

Bassick NoMar Furniture Rests With Socket Attachment



The socket type NoMar Rest fits standard $\frac{3}{8}$ -inch grip-neck caster sockets. To replace casters, simply pull out the caster and slip in the Socket NoMar.

Grip-neck sockets are furnished with this type.

A tilting joint allows the broad flat base to remain flat on the floor when furniture is tilted.

The base is of atlasite, a special material which will not break or chip. The base should be slightly larger than the bottom of the leg.

No. NR-2, $1\frac{1}{2}$ -Inch Diameter, $\frac{3}{8}$ -Inch Bore ..	per set
No. NR-3, 2-Inch Diameter, $\frac{3}{8}$ -Inch Bore ..	per set
No. NR-4, $2\frac{1}{2}$ -Inch Diameter, $\frac{3}{8}$ -Inch Bore ..	per set
	\$4.45
	.70
	.90

Bassick NoMar Desk Cups For Round Desk Legs

The use of desk cups gives protection to linoleum and composition floor coverings.



NoMar Desk Cup is made of atlasite which will not break, crack, or chip. Cannot rust or become discolored and will always retain the soft brown mahogany color. Neat in appearance, yet inconspicuous.

No. NDC-6 is suited for use as a caster cup as well as a desk cup, or for use under stove legs, radiator legs, etc. A slightly curved depression in the bottom of cup holds the caster wheel securely in place.

No.	NDC-6	NDC-7
Per Set of 4	\$30	\$40
Diameter of Opening	inches 1 $\frac{3}{8}$	1 $\frac{5}{8}$
Weight, per Set	ounces 3	4

Bassick NoMar Desk Cups For Square Desk Legs

Linoleum and composition floor covering need protection from the sharp edges of desk legs. NoMar Desk Cup is made of atlasite, which will not break, crack, or chip. Cannot rust or become discolored and will always retain the soft brown mahogany color.



Neat in appearance, yet inconspicuous.

No.	NDC-125	NDC-225	NDC-325	NDC-425
Per Set of 4	\$60	.70	1.00	1.60
Size of Opening in	1 $\frac{1}{2}$	1 $\frac{3}{4}$	2	2 $\frac{5}{8}$
Weight, per Set	ounces 6	7	12	14

Bassick Rubber Cushion Glides

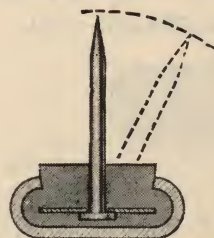


For chairs, porch furniture, tables, etc. Makes them slide quietly. Made with heavy gage, hardened steel base and resilient live rubber cushion. Sharp nail drives easily with hammer. Nickel plated finish.

Packed 6 sets per box.

No.	CG-90	CG-91	CG-92	CG-93
Per Set of 4	\$20	.25	.30	.35
Diameter Base	inches $\frac{7}{8}$	1 $\frac{1}{16}$	1 $\frac{1}{4}$	1 $\frac{1}{2}$
Weight per Set	ounces 10	12	16	18

Darnell Noiseless Glides



For use on light furniture. Absorbs noise on hard floorings and adds years to the life of floors and floor coverings. Gunmetal finish.

Flexible construction permits chairs to be tilted, while glides remain flat on floor. Smooth, hardened steel base; soft rubber cushion absorbs noise and vibration.

Nail Stem for Wood Furniture

No.	N-1-S	N-2-S	N-3-S	N-5-S
Per Set of 4	\$35	.40	.50	.75
Diam. Base	in. $\frac{7}{8}$	1 $\frac{1}{16}$	1 $\frac{1}{4}$	1 $\frac{1}{2}$

Threaded Stem for Metal Furniture

No.	L-2-S	L-3-S	L-5-S
Per Set of 4	\$40	.50	.75
Diam. Base	in. 1 $\frac{1}{16}$	1 $\frac{1}{4}$	1 $\frac{1}{2}$
Stem	in. 8-32x $\frac{3}{16}$	8-32x $\frac{3}{8}$	8-32x $\frac{3}{4}$

No. P-340 U.S. Rainbow Water Hose

Braided and molded construction.

Plies of braided cotton yarn are united by layers of rubber.

Inner tube and cover are seamless; made of tough and durable stock.

Made in continuous lengths.

Size.....inches	1	1 1/4	3/4	1	1 1/4	1 1/2
Per Foot.....	...	...	...	...	...	...
Braid.....	2	2	3	3	3	3
Approximate Working Pressure.....pounds	100	100	140	125	125	125

No. P-265 U.S. Perfected Water Hose

Combined braided, wrapped construction; rubber cover. Max. lgth., 50 feet.

Size In.	No. of Plies	Approx. O.D. In.	Approx. Work. Press. Lb.	Per Foot	Size In.	No. of Plies	Approx. O.D. In.	Approx. Work. Press. Lb.	Per Foot
1/2	3	1	150	....	2 1/2	4	3 1/16	90	....
3/4	3	1 13/64	125	....	1	5	1 13/32	175	....
1	4	1 1/4	150	....	1 1/4	5	1 7/8	150	....
1 1/4	4	1 1/2	150	....	1 1/2	5	2 13/64	150	....
1 1/2	4	1 5/8	125	....	2	5	2 47/64	125	....
2	4	2 1/8	125	....	2 1/4	5	3	100	....
2 1/4	4	2 11/16	100	....	2 1/2	5	3 1/4	90	....
2 1/2	4	2 5/8	100	....	2 1/2	6	3 19/64	100	....

No. P-636 U.S. Matchless High Pressure Water Hose

For road building, construction work, steel mills, mines, railroads, etc. Fine rubber tube, resilient for flexibility. Three-braid construction of long, strong fibre cotton with great resistance to high pressure. Thick red high tensile rubber cover. Maximum length, 50 feet.

Size.....in.	3/4	1	1 1/4	1 1/2	2
Per Foot.....	...	...	...	...	...
Approx. O.D.....in.	1 13/32	1 21/32	2	2 5/16	2 13/16
Approx. Working Pressure lb.	300	225	200	200	200

No. P-286 U.S. Matchless Car Washer Hose

Will operate satisfactorily on pressures up to and including 500 pounds.

Rubber tube is compounded to withstand the effect of hot water, soapy solutions or any solvents ordinarily used. The carcass consists of three plies of strong, braided cotton yarn. The smooth, gunmetal color cover is made of tough, oil and abrasion-resisting rubber stock that will withstand being dragged over oily and greasy floors.

Continuous lengths up to 500 feet.

Size.....in.	3/8	1/2	3/4
Per Foot.....	...	...	...
No. of Plies.....	3	3	3
Approx. Outside Diameter.....in.	59/64	1	1 19/64

No. P-371 U. S. Royal Cord Lawn Hose

The special carcass is constructed of layers of strong, tightly twisted cotton cords laid side by side spirally throughout the length of the hose. These cord plies are placed in reverse spirals to better distribute the strength and flexibility and prevent kinking. Light in weight, easy to handle, built for years of hard service.

Furnished in 2-ply cord construction with a tough brown cover in 25 and 50-foot lengths coupled and 500-foot lengths uncoupled.

Standard sizes, 5/8, 3/4, and 1 inch.

The 5/8 and 3/4-inch sizes only packed in individual cartons.

No. P-371.....per foot

U.S. Rainbow Lawn Hose

Two-braid construction with a tough wear-resisting, seamless cover. Has great strength and will not kink. Will not harden or crack from exposure to the weather.

Standard sizes are 1/2, 5/8 and 3/4 inches. Size 1/2-inch is made with black cover only, either smooth or corrugated. Sizes 5/8 and 3/4-inch are furnished with red, green, or black corrugated covers and black smooth cover.

Available in 25 and 50-foot lengths coupled (packed in individual cartons), and in continuous lengths up to 500 feet.

Prices upon application.

U.S. Neptune Lawn Hose

No. P-350, Black No. P-352, Red



One-ply spiral cord construction with corrugated cover. In 25 or 50-

foot coupled sections in 5/8-inch size; also in continuous lengths up to 500 feet uncoupled in 5/8-inch size.

In individual cartons. Prices upon application.

No. P-263 U.S. Perfected Steam Hose

Multiple plies of cotton duck with additional heavy, heringbone, seamless cotton braid under heat and oil resisting cover. Light weight and specially designed construction.

Maximum length, 50 feet.

Size In.	No. of Plies	Approx. O.D. In.	Approx. Work. Press. Lb.	Per Foot	Size In.	No. of Plies	Approx. O.D. In.	Approx. Work. Press. Lb.	Per Foot
1/2	4	1 3/32	125	....	1	6	1 3/4	125	....
1/2	5	1 3/16	150	....	1 1/4	4	1 15/16	100	....
3/4	4	1 11/32	100	....	1 1/4	5	2 1/32	90	....
3/4	5	1 7/16	125	....	1 1/4	6	2 3/32	100	....
3/4	6	1 1/2	140	....	1 1/2	5	2 29/32	100	....
1	4	1 19/32	100	....	1 1/2	6	2 11/32	90	....
1	5	1 11/16	110	....	2	6	3 1/8	90	....

No. H-2400 U.S. Giant Steam Hose



Recommended for general use; also for pile driver service.

Wrapped duck construction. The heavy rubber tube is specially compounded to resist temperatures of normal steam pressures. Wall structure is built up of heavy strong cotton duck plies and heat resistant rubber cover.

Maximum length, 50 feet.

Size Inches	Ply	Approx. O.D. Inches	Approx. Working Pressure Pounds	Size Inches	Ply	Approx. O.D. Inches	Approx. Working Pressure Pounds
1/2	4	1 5/8	150	1	5	1 25/32	150
1/2	5	1 3/4	175	1	6	1 27/32	175
3/4	4	1 13/16	125	1 1/4	5	2 1/8	125
3/4	5	1 15/16	150	1 1/4	6	2 1/32	150
3/4	6	1 17/16	175	1 1/2	6	2 15/32	125
1	4	1 11/16	100	2	6	3 1/32	110

Sold from standard steam hose list.

U.S. Peerless Fuel Oil and Distillate Hose

Official P-244

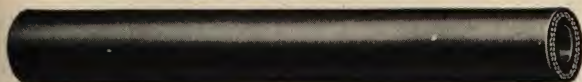
Continuous Lengths

A synthetic rubber 3-braid hose, is especially designed for long length, tank truck service. Moulded construction.

Size.....inches	1	1 1/4	1 1/2
Approximate O.D.....inches	1 13/32	1 7/8	2 1/16
Working Pressure.....pounds	125	100	100

Also available in sizes, 2 to 4 inches inclusive, wrapped finish, in maximum lengths of 50 feet. Prices on request.

No. P-243 U.S. Peerless Lacquer Spray and Solvent Hose



Synthetic rubber lining resists action of such solvents as butyl and amyl acetate, turpentine, oil, etc. Body consists of braided reinforcing plies of high grade cotton yarns. Smooth molded cover is of oil and abrasive-resisting rubber.

Made in continuous lengths up to 500 feet.

Approx. O.D. Work.			Approx. O.D. Work.		
Size In.	Per Foot	Braid Inches Pres. Lb.	Size In.	Per Foot	Braid Inches Pres. Lb.
1/4	1	17/32 125	1/4	2	39/64 200
1/4	1	19/32 125	1/4	2	43/64 200
5/16	1	21/32 125	5/16	2	47/64 200
3/8	1	23/32 75	3/8	2	7/8 125
1/2	1	51/64 75	1/2	2	1 125
..	..	..	5/8	2	1 125
..	..	..	3/4	2	1 3/4 100

Style P285 U.S. Matchless High Pressure Spray Hose



For spraying shrubbery and fruit bearing trees and bushes under high pressure.

Molded and braided type hose made in 3-braid only by the lead press method.

Black smooth cover of highest quality rubber will withstand severe abrasion.

Furnished in continuous lengths up to 500 feet.

Size.....inches	3/8	7/16	1/2	3/4
Approximate Outside Diameter.....inches	53/64	31/32	11/32	1 3/8

Prices upon application.

Style P-290 U.S. Rainbow Air Hose



Has a high quality, oil resisting tube; plies of strong cotton braid.

The extra tough molded finish red cover resists the abrasion of dragging over concrete floors, sidewalks, and streets.

Furnished in continuous lengths up to 500 feet.

Size.....in.	3/8	1/2	5/8	3/4	1/2	3/4	1
Per Foot.....	2	2	2	2	3	3	3
Ply of Braid.....	2	2	2	2	3	3	3
Working Pressure. lbs.	175	150	125	125	200	175	150

No. P-271 U.S. 4810 Air Hose



For air drills and pneumatic tools. The oil resisting tube in this hose is tough resilient, and will not crack or become porous. The wall structure of the hose is made up of the strongest cotton obtainable, which insures its great pressure resisting strength.

The thick cover is specially compounded to withstand severe abrasion.

Made in triple braid construction for service on rock drills in mines and quarries, and in general construction operations. It is especially designed to withstand high pressures and the most severe abrasion and abuse. It is flexible, easy to handle.

Also made in double braid construction, which is recommended for conducting air to the many types of pneumatic tools, riveters, drills and chippers used in shipbuilding, structural steel work, railway shops, etc.

Maximum length, 50 feet.

2-Braid			3-Braid		
Size Inches	Approx. O.D. Inches	Approx. Working Pressure Pounds	Size Inches	Approx. O.D. Inches	Approx. Working Pressure Pounds
1/4	25/32	300	1/2	15/32	275
3/8	57/64	250	3/4	129/64	250
1/2	15/16	175	1	111/16	200
5/8	13/16	150	1 1/4	161/64	175
3/4	11/16	150	1 1/2	27/32	150
..	..	..	2	211/16	125

Prices upon application.

No. H-400 U.S. Dexter Air Hose



Recommended for average pneumatic tool service. Its construction is of the wrapped type with a fine quality tube and cover.

Maximum length, 50 feet.

Size.....inches	3/8	1/2	3/4	1
Ply.....	4	5	5	6
Approx. O.D.....inches	3/4	63/64	17/32	135/64
Approx. Working Pressure...pounds	175	150	125	125

Prices upon application.

U. S. Rainbow Small Hose

Style P-282, Smooth

Style P-283, Corrugated



A welding or cutting hose. Can also be used for practically any purpose where small diameter air or water hose is required. Light in weight, flexible, will not kink or remain in a permanently flattened condition if crushed.

Corrugated surface covers furnished in black, red or green; smooth surface covers in black and red only. Red cover is generally used for gas or acetylene line; black or green cover for oxygen line. In lengths up to 500 feet.

Size In.	Braid	APPROX. O.D., In.	Corru- gated	Smooth	Approx. Work. Press. Lbs.	Size In.	Braid	APPROX. O.D., In.	Corru- gated	Smooth	Approx. Work. Press. Lbs.
3/16	1	31/64		15/32	150	5/16	2	11/16		43/64	200
1/4	1	35/64		17/32	125	3/8	2	3/4		47/64	200
5/16	1	39/64		19/32	125	1/2	3	45/64			300
3/8	1	43/64		21/32	125	5/16	3	49/64			300
3/16	2	9/16		35/64	250	3/8	3	53/64			300
1/4	2	5/8		39/64	200	...	...	...	...	...	...

Style TC-7911 U.S. Cloth Inserted Small Hose



Beverage, beer, and air hose.

White tube; white friction; red cover. Non-toxic, and will not impart odor or taste to food beverages.

Standard length 50 feet.

Size In.	No. of Plies	O.D. In.	Recommended Working Pressure Lbs.	Size In.	No. of Plies	O.D. In.	Recommended Working Pressure Lbs.
3/16	3	7/16	150	1/2	3	3/4	100
1/4	3	1 1/2	150	1/2	4	49/64	125
5/16	3	9/16	125	1/2	5	23/32	150
3/8	3	5/8	125	5/8	3	7/8	100

U.S. Hand Made All-Rubber Tubing



Made from pure gum compound. Regularly furnished in white; also supplied in red, black, and natural color.

Standard stock sizes 1/8 to 1 inch i.d. with wall thickness from 1/32 to 1/4 inch

inclusive. Furnished in 50-foot lengths; also in multiples of 12 feet. Prices on request.

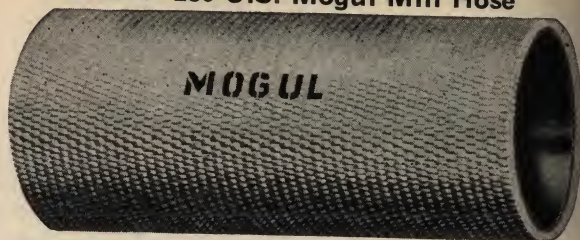
No. P-255 U.S. Rainbow Creamery Hose



For use in creameries, dairies, ice cream plants, cheese factories and other food making establishments for washing, cleaning and sterilizing with either cold or hot water and steam. Made with the best hot water and steam resisting rubber in the tube, and with a carcass of duck ply construction. Cover is firmly bonded to carcass by a ply of open weave breaker duck and may be had in either white or red of grease resisting stock. Where specified hose can be furnished with tapered soft nozzle built on end of hose.

Maximum length, 50 feet. Standard sizes, 1/2 to 1 1/2 inches, 4 ply. Prices upon request.

No. P-259 U.S. Mogul Mill Hose



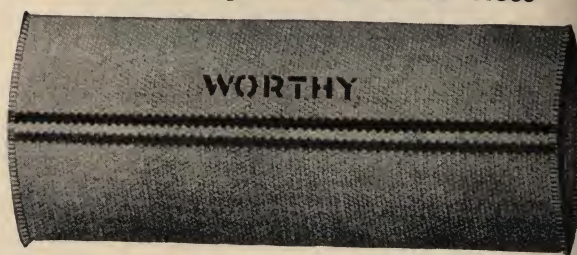
Constructed with a calendered rubber tube assuring a smooth waterway, reducing loss by friction.

The woven fabric used is of high quality, long fibre cotton, securely cemented to tube; fabric is chemically treated as a protection against mildew and rot.

Furnished in 50-foot lengths.

Size.....	inches	1 1/4	1 1/2	2	2 1/2
No. P-259, Single Jacket.....	per foot	...	...	...	...

U.S. Worthy Unlined Linen Hose

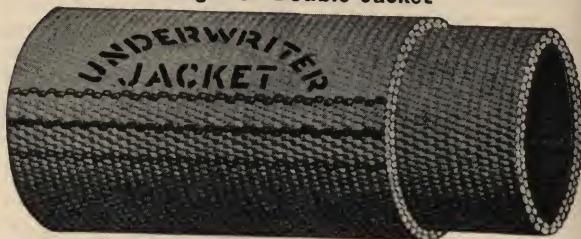


For emergency fire protection only. This hose is not intended to withstand frequent service and is not suitable for use where the fabric will be subjected in service to chafing, or to rough or sharp surfaces. Should be kept dry. Will not deteriorate on the rack and is light and strong.

Made of long fibre flax line, is circular woven under heavy tension. When wet it will swell slightly, closing all pores in the weave, providing a practically leakless hose.

Will meet the specifications of Associated Factory Mutual Insurance Companies of Boston, Underwriters' Laboratories, Chicago, and any local board of Underwriters.

Made in 1, 1 1/4, 1 1/2, 2 and 2 1/2-inch sizes in standard lengths of 25 or 50 feet; also available in lengths up to approximately 300 feet. Prices upon request.

U.S. Underwriters Fire Hose
Single or Double Jacket

A high grade, dependable fire hose, cotton rubber lined, carefully made and carrying necessary Underwriters' labels. Built to specifications of National Board of Fire Underwriters and Associated Factory Mutual Fire Insurance Companies.

Double jacket is for fire protection in industrial plants where high pressures are involved; single jacket for lower pressures and for less severe duty.

Furnished when specified with wax and gum treatment which makes it impervious to absorption of moisture and prevents mildew and rot.

Furnished in 50-foot lengths.

Double jacket is furnished in 1 1/2, 2, 2 1/2, 3-inch sizes; guaranteed test pressure on delivery, 400 pounds.

Single jacket is furnished in 1 1/2, 2 and 2 1/2-inch sizes; guaranteed test pressure on delivery, 300 pounds.

Also available unlabelled. Prices upon request.

Style No. P-5107 U.S. Giant Contractors' Water Suction and Discharge Hose



A super-flexible hose with smooth bore construction. High grade rubber tube protects wire from rust and deterioration. Has a woven cotton ply interwoven with a round spiral wire;

cover is tough, abrasive resistant, and long-aged.

Hose can be rounded out if crushed or flattened in service.

Ends of hose cannot be enlarged.

Sizes 1¼ to 4 inches inclusive. Maximum length, 50 feet; can be cut to shorter lengths when required.

Prices upon application.

U.S. Rainbow Water Suction Hose



A rugged yet flexible hose made to meet contractors' requirements for diaphragm pumps used in sewer and foundation operations. Furnished with round wire in smooth bore and flat wire in rough bore, with 3-ply duck over wire.

Specify whether smooth or rough bore is desired. Made in sizes 1½ to 6 inches inclusive. Prices upon request.

Penflex Interlocking Joint Tubing



Made from metal .010 inch to .012 inch thick; light weight. Recommended for automobile heater and exhaust connections.

This type of tubing is also built in bronze.

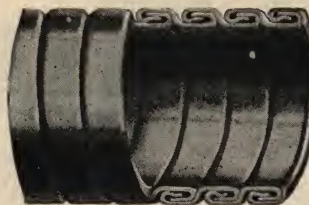
Four-wall construction assures a strong and serviceable connection even though flexed to its extreme limit.

Special sizes of tubing not shown will take the price of the nearest larger listed size.

Prices apply on tubing measured when fully extended. Cut lengths with the tubing measured compressed will be considered as the specified length plus 33⅓%. Tubing made from heavier metal can be supplied. Prices on application.

I.D. In.	O.D. In.	Per 100 Ft.	I.D. In.	O.D. In.	Per 100 Ft.	I.D. In.	O.D. In.	Per 100 Ft.
1/2	5/8	\$14.50	1 1/8	1 3/4	\$38.00	2 3/4	2 7/8	\$70.00
9/16	1 1/16	15.75	1 11/16	1 13/16	39.25	2 13/16	2 15/16	73.00
5/8	3/4	17.00	1 3/8	1 7/8	41.00	2 7/8	3	76.00
1 1/16	1 1/8	18.50	1 13/16	1 15/16	43.00	2 5/16	2 3/4	80.00
3/4	7/8	19.75	1 7/8	2	44.00	3	3 1/8	83.00
1 1/16	1 1/4	21.25	1 15/16	2 1/16	45.00	3 1/8	3 1/4	88.00
7/8	1	22.50	2	2 1/8	45.50	3 1/4	3 3/8	92.00
1 1/16	1 1/16	24.00	2 1/16	2 3/16	47.25	3 3/8	3 1/2	96.00
1	1 1/8	25.00	2 1/8	2 3/8	49.00	3 1/2	3 5/8	100.00
1 1/16	1 1/4	26.00	2 3/16	2 5/16	51.00	3 3/4	3 7/8	108.00
1 1/8	1 1/2	27.00	2 1/4	2 3/4	53.00	4	4 1/8	115.00
1 3/16	1 5/8	28.50	2 5/16	2 7/16	55.00	4 1/4	4 3/8	130.00
1 1/4	1 3/4	29.75	2 3/8	2 1/2	57.00	4 3/8	4 1/2	140.00
1 5/16	1 7/8	31.25	2 7/16	2 5/8	59.00	4 1/2	4 5/8	150.00
1 3/8	2	32.60	2 1/2	2 5/4	61.00	5	5 1/8	175.00
1 7/16	2 1/16	34.50	2 5/16	2 3/4	63.00	6	6 1/8	230.00
1 1/2	2 1/8	35.80	2 5/8	2 3/4	65.00	...	...	...
1 5/8	2 1/4	37.00	2 11/16	2 15/16	67.00	...	...	...

Penflex Interlocked High Pressure Bronze Hose



Has four-wall, interlocking construction.

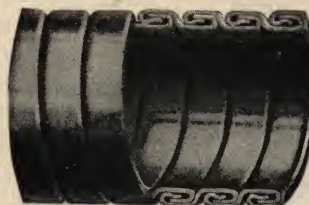
Will withstand heaviest pressures and highest temperatures in regular, constant service.

Always retains its flexibility.

Size Inches	Per Foot	I.D. Bend Inches	Thickness Metal Strip Inches	Hydrostatic Test Pressure per Square Inch	Approx. Weight Pounds per Foot
1 1/2	\$.75	10	.020—.022	500	.4
3/4	1.25	13	.024—.026	500	.8
1	1.60	16	.024—.026	500	1.0
1 1/4	2.25	20	.029—.031	400	1.5
1 1/2	2.70	25	.033—.035	400	2.0
2	3.50	28	.033—.035	300	2.75
2 1/2	4.00	32	.033—.035	300	3.2
3	5.50	40	.037—.039	250	4.5

Special heavy duty flexible hose can be furnished in sizes 4 to 12-inch; prices upon application.

Penflex Interlocked High Pressure Galvanized Steel Hose



Has interlocking, four wall construction.

For hot or cold oils, hot paraffin and all non-corrosive liquids.

Will not collapse nor kink.

Size Inches	Per Foot	I.D. Bend Inches	Hydrostatic Test Pressure per Square Inch	Approx. Weight Pounds per Foot
1 1/2	\$.40	10	500	.35
3/4	.60	13	500	.75
1	.80	16	500	.90
1 1/4	1.00	20	400	1.4
1 1/2	1.20	25	400	1.85
2	1.50	28	300	2.6
2 1/2	1.90	32	300	2.9
3	2.30	40	250	4.0

Special heavy duty flexible hose can be furnished in sizes 4 to 12-inch; prices upon application.

Penflex F. P. Flexible Metal Hose

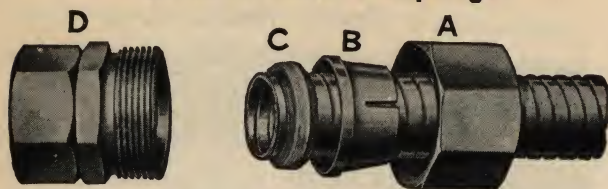


Designed for light pressures, and recommended for such service as connections on automatic lathes, screw machines, grinders, etc. Also adapted for conveying steam, oil, air, etc.

Generally supplied with soldered-on couplings.

I.D. Hose.....in.	3/16	1/4	5/16	3/8	1/2	3/4
I.D. Bend.....in.	4 1/2	5	6	7	8	9
Bronze, Plain.....per ft.	\$.20	.25	.35	.45	.65	.90
Extension for Braiding						
Bronze.....	.16	.18	.20	.30	.40	.60
Galvanized Steel, Plain						
.....per ft.	.12	.15	.20	.25	.35	.40
Extension for Braiding						
Galvanized Steel.....	.14	.16	.17	.25	.30	.50

Penflex Clincher Couplings



Designed to meet requirements of high pressure steam hose. Accurately machined so that assembly on hose brings each part into proper relation, clinching same so strongly that they cannot be blown off. Ferrule is threaded with a screw thread of same pitch as convolutions of hose.

The couplings are also made with an extension to the back nut to which is fastened a special bronze casing extending over the principal tube about 18 inches back of the coupling. This re-inforcing strengthens the hose at this point, and is a valuable addition to 3/4 and 1-inch sizes in the boiler room for flue blowing connections or in places where excessive strain at the terminals is necessary. Couplings are attached outside the hose, thus maintaining the full inside diameter of the hose through the couplings.

The ferrule B is beveled on outside and split so as to grip the hose when the back nut A is joined to the sleeve D. The asbestos packing C is wound around the hose at the end above the ferrule.

Packed Couplings Attached to Plain Hose

Size In.	Regu- lar per Set	Rein- forced per Set	Size Inches	Regu- lar per Set	Rein- forced per Set	Size In.	Regu- lar per Set	Rein- forced per Set
1/8	\$2.75	\$4.00	3/4	\$5.00	\$7.25	2	\$13.00	\$21.00
1/4	2.75	4.00	1	6.50	10.00	2 1/2	19.00	30.00
3/8	3.50	4.75	1 1/4	8.50	12.00	3	24.00	40.00
1/2	4.00	5.75	1 1/2	10.00	16.00	...	...	...

Packed Couplings Attached to Braided Hose

Size In.	Regu- lar per Set	Rein- forced per Set	Size Inches	Regu- lar per Set	Rein- forced per Set
1/8	\$3.50	\$4.50	1/2	\$5.00	\$9.00
1/4	3.50	4.50	3/4	7.00	12.00
3/8	4.00	6.00	1	9.00	15.00

Couplings, sizes 4 to 12-inch, prices upon application.

Penflex Soldered-On Couplings



Male

Swivel Female

Ground Joint Union Female

For flexible metal pressure hose. Soldered Couplings are suitable for use with temperatures up to 250° F. but for higher temperatures the packed couplings should be used.

A set of soldered couplings consists of 1 male and 1 swivel female. Ground joint union female can be supplied in place of the swivel female in sizes up to 2 inches.

Size Hose In.	I.P. Thread In.	Attached to Unbraided Hose per Set	Attached to Braided Hose per Set
3/16	1/8-1/4	\$1.25	\$1.50
1/4	1/8-1/4	1.25	1.50
5/16	1/4-3/8	1.50	1.75
3/8	1/4-3/8	1.75	2.00
1/2	1/2	2.25	2.50
3/4	3/4	3.50	4.00
1	1	5.00	6.00
1 1/4	1 1/4	6.00	7.50
1 1/2	1 1/2	8.00	...
2	2	11.00	...
2 1/2	2 1/2	15.00	...
3	3	19.00	...

Reinforced soldered couplings, above lists plus 50%.

Male couplings only for plain hose, 35% of set; for braided hose, 40% of set.

Swivel female couplings for plain hose, 65% of set; for braided hose, 60% of set.

Ground joint union females for plain hose, 65% of set; for braided hose, 60% of set.

Ground joint union males, list; for females, plus 10%.

Rigid female soldered couplings for plain hose, 35%; for braided hose, 40%.

Boss Cadmium-Plated Hose Couplings



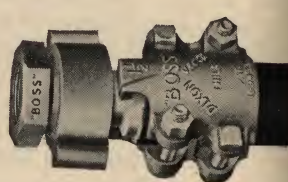
MX-16
Male Coupling with
I.P.T.—Size 3/4 Inch
and Smaller
2-Bolt Clamp



W-16
Female Coupling with
I.P.T. Spud and Washer
Size 3/4 Inch and Smaller
2-Bolt Clamp



MX-16
Male Coupling with
I.P.T.—Size 1 Inch
and Larger
4-Bolt Clamp



W-16
Female Coupling with
I.P.T. Spud and Washer
Size 1 Inch and Larger
4-Bolt Clamp

Heavily reinforced rustproof clamps with extra gripping surface and extended fingers to engage collar on stem.

Do not order in sets. One length of hose requires two couplings. Specify size and number of male or female desired.

Hose and I.P.T. Size Inches	Female Coupling Complete Each	Weight Pounds	Male Coupling Complete Each	Weight Pounds
1/4	\$0.90	3/8	\$0.52	1/4
3/8	1.10	1/2	.65	3/8
1/2	1.40	1	.80	5/8
3/4	2.40	2 3/4	1.20	1 3/8
1	2.65	3 3/8	1.45	2 1/4
1 1/4	4.40	6 1/2	2.30	3 3/4
1 1/2	4.60	6 5/8	2.80	4 1/2
2	7.25	10 1/4	4.10	6 5/8
2 1/2	14.00	19	8.00	13 3/4
3	17.50	25 3/8	11.00	19 1/4
4	33.00	49 3/4	18.75	31

Hose and I.P.T. Size Inches	Female Stem Each	Female Nut Each	Female Spud Each	Clamp Each	Washers per 100	Male Stem Each
1/4	\$0.25	\$0.25	\$0.30	\$0.12	\$0.80	\$0.40
3/8	.30	.30	.30	.20	1.00	.45
1/2	.40	.35	.35	.30	1.65	.50
3/4	.75	.60	.60	.45	2.50	.75
1	.80	.60	.60	.65	2.50	.80
1 1/4	1.25	1.00	1.00	1.20	2.85	1.10
1 1/2	1.30	1.00	1.00	1.50	3.00	1.30
2	1.85	1.60	1.80	2.10	4.40	2.00
2 1/2	3.75	3.00	3.40	4.00	5.70	4.00
3	4.50	4.00	4.25	5.00	6.30	6.00
4	7.00	8.00	9.00	*10.00	7.15	8.75

*Clamp—3 sections, 6 bolts.

Regular Clamps

Marked Size Inches	Fits Hose O.D. Inches	Marked Size Inches	Fits Hose O.D. Inches
1/4	9/16 to 1 1/16	1 1/2	2 1/4 to 2 3/16
3/8	3/4 to 7/8	2	2 3/4 to 3 1/16
1/2	1 1/16 to 1 1/16	2 1/2	3 1/2 to 3 13/16
3/4	1 5/16 to 1 1/2	3	4 1/16 to 4 7/16
1	1 11/16 to 1 7/8	4A	4 7/8 to 5 1/16
1 1/4	2 1/16 to 2 1/4	...	...

Oversize Clamps

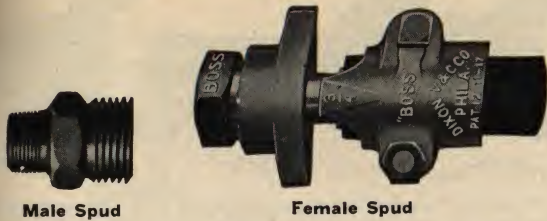
Marked Size Inches	Fits Hose O.D. Inches	Marked Size Inches	Fits Hose O.D. Inches
5/8	1 1/2 to 1 3/4	1 5/8	2 15/32 to 2 23/32
7/8	1 11/32 to 1 5/8	2 1/8	3 3/32 to 3 1/16
1 1/8	1 7/8 to 2 1/16	4B	5 3/8 to 6 1/16

Oversize clamps take same list as regular.

If 2-bolt clamps are desired on couplings sizes 1 to 2 inches, inclusive, they can be furnished when specified.

Boss Air Hammer Couplings

Cadmium-Plated—Rustproof



Has steel spud and malleable iron wing nut. The steel stem is made with a collar to engage the extended fingers of the sturdy, malleable iron clamp, which is furnished with machine bolts and hex nuts.

Coupling complete consists of spud, either male or female as specified, nut, stem, clamp and oil-treated leather washer.

Style WLB-21, Compact Type

Hose and I.P.T. Size	Coupling Complete		Parts							
	with Female	with Male	Wt. Lbs.	Stem Each	Female	Male	Nut Each	Clamp Each	Washers	
	Spud Each	Spud Each			Spud Each	Spud Each			Per 100	
1/2	\$1.90	\$2.10	1.65	\$.60	\$.50	\$.70	\$.50	\$.30	\$4.50	
3/4	2.05	2.25	2.20	.60	.50	.70	.50	.45	4.50	

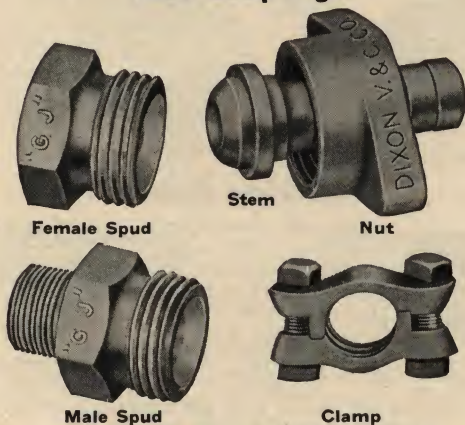
Spud has tapered iron pipe thread one end, same size as hose; other end fitting nut (both 1/2-inch and 3/4-inch sizes) has the adopted standard thread for this type coupling—8 threads per inch, 1 3/4-inch diameter.

Style WHB-32, Heavy Type

3/4	\$2.65	\$2.95	3.12	\$0.80	\$0.60	\$0.90	\$0.80	\$0.45	\$6.00
1	2.85	3.15	3.65	.80	.60	.90	.80	.65	6.00

Spud has tapered iron pipe thread one end, same size as hose; other end fitting nut (both 3/4-inch and 1-inch sizes) has the adopted standard thread for this type coupling—8 threads per inch, 1 7/8-inch diameter.

GJ-Dixon Ground Joint Air Hammer Hose Couplings



Copper inserted spud. Cadmium-plated. Leak-proof. One end of spud has taper iron pipe thread; other end fitting nut has coarse thread 1 3/4 inches diameter for light type couplings, 1 7/8 inches diameter for heavy type, 8 threads per inch.

Style XLD-41, Light Type

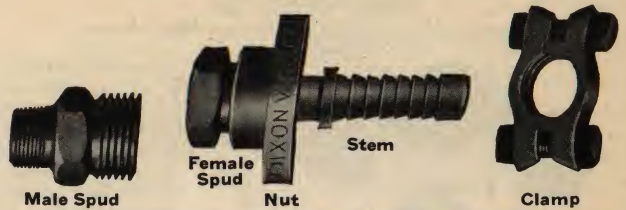
Hose and I.P.T. Size In.	COUPLING COMPLETE		SEPARATE PARTS						
	Female Spud	Male Spud	Stem Each	Female Spud Each	Male Spud Each	Nut Each	Clamp Each		
1/2	\$2.15	\$2.35	\$0.65	\$0.75	\$0.95	\$0.50	\$0.25		
3/4	2.20	2.40	.65	.75	.95	.50	.30		

Style XHD-52, Heavy Type

3/4	\$2.80	\$3.08	\$0.88	\$0.82	\$1.10	\$0.80	\$0.30		
1	3.00	3.28	.88	.82	1.10	.80	.50		

*For 3/4-inch hose with an O.D. greater than 1 1/8 inch, a 7/8-inch clamp (Part J-49-X) is furnished, at no extra charge, when specified.

Dixon Air Hammer Couplings



A cadmium-plated coupling for service on hand hammer and rock drills. Coupling consists of steel spud (male or female), corrugated steel stem, malleable iron wing nut, malleable iron clamp with dual gripping corrugations inside and reinforced bolt lugs; machine bolts with hex nuts and oil-treated leather washer. Spud has tapered iron pipe thread one end, same size as hose; other end fitting nut has adopted standard thread for this type coupling—8 threads per inch.

No. WLD-7—Compact Type

Hose and Coupling Complete										Washers
I.P.T. Size	With Female	With Male	Wt.	Stem	Female Spud	Male Spud	Nut	Clamp	Per 100	
In.	Spud, Ea.	Spud, Ea.	Lb.	Each	Each	Each	Each	Each		
1/2	\$1.85	\$2.05	1.60	\$.60	\$.50	\$.70	\$.50	\$.25	\$ 4.50	
*3/4	1.90	2.10	1.85	.60	.50	.70	.50	.30	4.50	

No. WHD-9—Heavy Type

3/4	\$2.50	\$2.80	3.00	\$0.80	\$0.60	\$0.90	\$0.80	\$0.30	\$6.00
1	2.70	3.00	3.35	.80	.60	.90	.80	.50	6.00

*For 3/4-inch hose with o.d. greater than 1 1/8 inch, a 7/8-inch clamp (Part J-49-X) is furnished at no extra cost.

King Combination Nipples

I.P.T. Nipple with Shank for Straight End Hose



For use where iron pipe nipples are desired for suction and all other styles of hose. Portion of nipple extending out of hose is exactly like an I.P. nipple. Shank or hose end is similar

to a coupling shank, corrugated to give greater gripping strength, and fits hose of same I.D. as size pipe.

Size Hose and I.P.T. In.	Style KC		Style KCC		Lgth. Shank In.	Lgth. Over-all In.	Size Hose and I.P.T. In.	Style KC		Style KCC		Lgth. Shank in In.	Lgth. Over-all In.
	Plain Iron	Mal. Plated	Mal. Iron	Mal. Iron				Plain Iron	Mal. Plated	Mal. Iron	Mal. Iron		
1/2	\$0.20	\$0.24	\$0.40	2	4	2 1/2	\$1.30	\$1.60	\$2.60	3	5 7/8		
3/4	.28	.33	.56	2	3 3/4	3	2.00	2.60	4.00	3 1/2	7 1/8		
1	.35	.45	.70	2 1/2	3 3/4	4	2.70	3.50	5.40	4 1/4	7 3/4		
1 1/4	.40	.53	.80	2 1/4	4 1/4	5	5.50	7.40	11.00	5 1/2	10		
1 1/2	.55	.75	1.10	2 3/8	4 3/8	6	7.00	9.50	14.00	6 1/2	11 5/8		
2	.75	1.00	1.50	2 5/8	4 1/2	...	...	...	...	...	...

Boss Throttle Valves



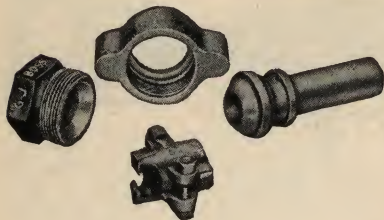
Has heavy wall; reinforced at base of thread. As wear takes place, bronze plug automatically adjusts itself so that valve is always tight. Handle attached by sturdy rivet.

Tested to 200 pounds air pressure.

L. P. T. In.	Description	Malleable Iron		Drop Forged	
		No.	Each	No.	Each
1/2	Male Both Ends.....	V- 22	\$2.50	.....	.....
1/2	Female Both Ends.....	V- 33	2.50	.....	.....
3/4	Male Both Ends.....	V- 44	3.50	D-44	\$5.50
3/4	Female Both Ends.....	V- 55	3.50	D-55	5.50
1	Male Both Ends.....	V- 66	4.00	D-66	6.50
1	Female Both Ends.....	V- 77	4.00	.....	.....
2	Female Both Ends.....	V-139	8.00	.....	.....

Style X34 GJ-Boss Ground-Joint Female Hose Couplings

Cadmium Plated—Washerless—Rust-Proof

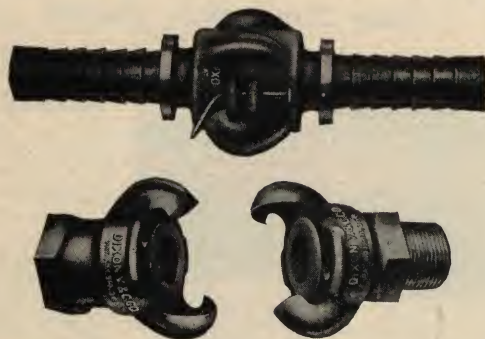


For use on steam, air or liquid hose. The ingeniously inserted and finished copper seat of the spud effects a perfect seal against the correctly designed radius on the head of stem without any great effort, such as is

needed with a washer type coupling.

Hose and I.P.T. Size Inches	Coupling Complete Each	GJ Stem Each	Nut Each	GJ Spud Each	Clamp Each	Weight Pounds Coupling Complete
1/2	\$1.60	\$.45	\$.35	\$.50	\$.30	1
3/4	2.70	.83	.60	.82	.45	2 3/4
1	2.95	.88	.60	.82	.65	3 3/8
1 1/4	4.90	1.35	1.00	1.40	1.20	6 1/2
1 1/2	5.20	1.40	1.00	1.40	1.50	6 5/8
2	8.15	2.05	1.60	2.50	2.10	10 1/4
2 1/2	15.70	4.15	3.00	4.70	4.00	19
3	19.60	5.00	4.00	5.85	5.00	25 3/8
4	37.50	8.10	8.00	12.40	10.00	49 3/4

Air King Universal Hose Couplings



A quick-acting universal coupling. The heads or locking ends, up to 1-inch are identical for all size hose and threaded ends; permitting the coupling of any 2 sizes of hose within the Air King hose end range, and the coupling of hose to pipe by the use of threaded connection. The locking heads, when snapped together, make a tight, leakless connection under high or low pressure and vacuum.

By the use of a cotter pin or nail inserted in the holes drilled in each side lug, the couplings cannot unsnap due to vibration or twist.

The triple connection makes possible the use of 2 outlets instead of one. If only one of the outlets is in use, the other may be sealed with the blank end.

Furnished complete with washer.

	Bronze	Malleable Iron Cadmium-Plated
Hose Ends, 3/8, 1/2, 5/8, 3/4, 1-inch.....each	\$1.20	\$1.00
Male or Female Threaded Ends, 1/4 to 1 Inch.....each	1.20	1.00
Triple Connections.....each	2.50	2.20
Blank Ends.....each	1.20	1.00
Extra Washers.....each	.08	.08
Special Steam and Oil Washers.....each	.16	.16

No. 1220 Rubber Hose Washers



Size.....inches	3/4	1	1 1/4	1 1/2	2	2 1/2
No. 1220....per dozen	\$.15	.20	.30	.40	.60	.75

Kelly Duro Bronze Air Hose Couplings



No. K-7

No. K-12

No. K-2

Couplings are the universal type, so that any end, or half coupling, is interchangeable with any other end. Any size hose can be coupled to any other size hose or pipe connection.

Constructed of a special alloyed bronze; can be used in any service or weather without corroding. Instantly connected or disconnected with less than one-quarter turn. Pure rubber gaskets set in a deep recess give an air tight fit and prevent leaks and blowouts.

Size In.	Male Part No.	Thread Per End	Female Part No.	Thread Per End	Hose Part No.	Shank Per End
1	K-1	\$.75	K-6	\$.75	K-11	\$.75
3/4	K-2	.75	K-7	.75	K-12	.75
1/2	K-3	.75	K-8	.75	K-13	.75
3/8	K-4	.75	K-9	.75	K-15	.75
1/4	K-5	.75	K-10	.75	.....	.....

Part No. K-33, 3-Way Coupling.....each \$1.50
Part No. K-34, Plug or Dead End.....each .75

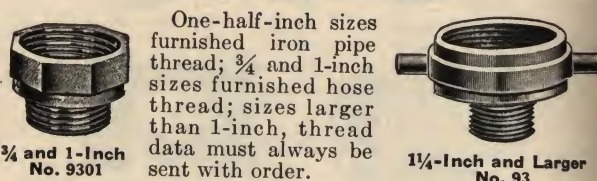
Brass Hose Nipples

When ordering, state number and thread wanted on each end.

Size Inches	No. 91 Male per Dozen	No. 92 Male and Female per Dozen
1/2	\$3.04	\$3.04
3/4	3.04	3.04
1	5.60	6.30
1 1/4	9.00	*9.00
1 1/2	10.00	*10.00
2	*14.00	*14.00
2 1/2	28.00	*28.00
3	*40.00	*40.00
3 1/2	*50.00	*50.00
4	*75.00	.....

*Made to order only.

Brass Hose Reducers



3/4 and 1-Inch No. 9301

1 1/4-Inch and Larger No. 93

One-half-inch sizes furnished iron pipe thread; 3/4 and 1-inch sizes furnished hose thread; sizes larger than 1-inch, thread data must always be sent with order.

Three-fourth and 1-inch sizes are hexagonal, without lugs.

Size Inches	Per Dozen	Size Inches	Per Dozen	Size Inches	Per Dozen
3/4x 1/2	\$6.50	2 x 3/4	\$13.00	2 1/2x1 1/2	\$24.00
1 x 3/4	6.50	2 x 1	14.00	2 1/2x2	26.00
1 1/4x 3/4	8.00	2 x 1 1/4	16.00	3 x 2	30.00
1 1/4x1	10.00	2 x 1 1/2	18.00	3 x 2 1/2	36.00
1 1/2x 3/4	11.50	2 1/2x 3/4	20.00	.....	.....
1 1/2x1	11.50	2 1/2x1	22.00	.....	.....
1 1/2x1 1/4	12.00	2 1/2x1 1/4	23.00	.....	.....

Extra Large Hose Reducers



Size.....inches	4x2 1/2	4 1/2x2 1/2
Hose Reducers.....each	\$5.75	6.25

Garden Hose Couplings

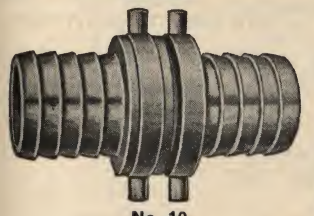
Cast Brass



Size In.	Full Sets per Doz.	Half Coupling Female per Doz.
1/2	\$2.86	\$1.90
5/8	2.86	1.90
3/4	2.86	1.90
1	5.72	3.80

Cast Brass Water
Hose Couplings

Sizes 1 1/4 to 2 1/2 inches, one
lug; 3 to 4 inches, two lugs.



No. 10

Size In.	Per Doz.	Size In.	Per Doz.
1 1/4	\$10.00	3	\$75.00
1 1/2	14.00	3 1/2	120.00
2	24.00	4	150.00
2 1/2	48.00	...	...

Steam Hose Couplings



No. 11

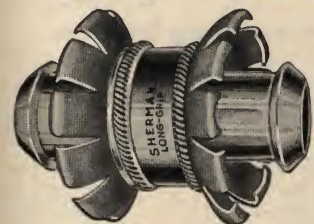
Size.....in.	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Per Doz.....	\$15.00	15.00	18.00	24.00	30.00	42.00	72.00
Lgth. Tail..in.	2 1/2	3	3 1/4	3 1/2	4	4 1/4	5

Made of cast
brass.
Always
furnished
with iron
pipe thread.

Sherman Long-Grip Hose Menders



Wrought brass with steel fingers.
Made in 1/2, 5/8, 3/4 and *1-inch sizes.
No. 31, Plated Fingers per doz.
No. 231, Colored Fingers
.....per doz.

Sherman Long-Grip Hose
Couplings

Wrought brass with steel
fingers.
Made in 1/2, 5/8, 3/4 and
*1-inch sizes.
No. 30, Plated Fing-
ers....per dozen
No. 230, Colored
Fingers..per dozen
*Not with colored fingers.

Hose Menders



No. 74, Iron



No. 152B, Sheet Brass

Size.....inches	1/2	5/8	3/4	1
No. 74, Iron.....per dozen	\$.84	\$.94	\$.94	\$ 1.26
No. 152B, Sheet Brass.....per dozen	.66	.66	.66	....

Air King Air Hose Clamps

Malleable Iron, Cadmium Plated

Reinforced at points where needed to supply strength,
sufficiently light in weight that it is not cumbersome to
operator. Extended fingers, fitting over collar on stem of
coupling, together with the compression of hose by bolt
pressure, prevents any leak or blowing off. Machine bolts
with hexagon nuts furnished.



Size Hose In.	Fits Hose O.D. Inches	Each
3/8	3/4 to 7/8	\$.20
1/2	1 to 1 1/16	.26
3/4	1 1/8 to 1 5/16	.35
*7/8	1 3/16 to 1 1/2	.35
1	1 1/2 to 1 5/16	.50

*Oversize clamp for large
outside diameter 3/4-in. hose.

Allen Plated Steel Hose Clamps



Rust resisting. Made of heavy steel and heavily plated.

Tested to 800 pounds pressure.

For Water Hose

Size In.	Per Dozen	Hose Diam. In.	Inside Diam. In.	No. in Carton	Wt. Lbs. per Gross	Size In.	Per Dozen	Hose Diam. In.	Inside Diam. In.	No. in Carton	Wt. Lbs. per Gross
1/4	\$.36	3	1 1/2	144	3 3/4	1 1/4	\$1.35	4	1 13/16	36	20 1/4
3/8	.36	2	9/16	144	3 3/4	1 1/4	1.35	5	1 7/8	36	21
3/8	.36	3	5/8	144	3 3/4	1 1/2	1.60	3	2	36	22 1/4
3/8	.36	4	11/16	144	4	1 1/2	1.60	4	2 1/8	36	22 1/2
1/2	.36	2	3/4	144	4 3/4	1 1/2	1.60	5	2 3/16	36	27
1/2	.36	3	7/8	144	5 1/4	1 3/4	1.90	3	2 1/4	24	23
1/2	.36	4	1 1/16	144	5 1/4	1 3/4	1.90	4	2 3/8	24	33
...	.36	...	3 3/8	144	6	2	2.00	3	2 1/2	24	33
1 1/2	.36	5	1	144	6 1/2	2	2.00	4	2 5/8	24	34
1 1/2	.40	2	1	144	6 3/4	2	2.00	5	2 11/16	24	40
5/8	.40	3	1 1/16	144	6 3/4	*2	2.65	...	3	12	48
5/8	.40	4	1 1/16	144	7 1/2	2 1/4	2.40	3	2 3/4	12	46 3/4
5/8	.40	2	1 1/16	144	6 3/4	2 1/4	2.40	4	2 13/16	12	47 1/2
3/4	.40	3	1 1/8	144	7 3/4	2 1/2	2.65	3	3	12	48
3/4	.40	4	1 1/8	144	7 3/4	2 1/2	2.65	4	3 1/8	12	48 1/4
3/4	.40	5	1 1/4	144	7 3/4	2 1/2	2.65	5	3 3/16	12	50
1	.70	3	1 3/8	72	11 1/2	2 3/4	3.60	4	3 3/4	12	50
1	.70	4	1 1/2	72	12 3/4	3	4.20	3	3 3/2	...	51
1	.70	5	1 5/8	72	13 1/4	3	4.20	4	3 5/8	...	51
1 1/4	1.35	3	1 11/16	36	19 3/4	...	...	...	...	...	...

*Suction hose.

For Steam Hose

Size In.	Per Dozen	Hose Diam. In.	Inside Diam. In.	No. in Carton	Wt. Lbs. per Gross	Size In.	Per Dozen	Hose Diam. In.	Inside Diam. In.	No. in Carton	Wt. Lbs. per Gross
1/2	\$.76	4	1 1/16	144	7	1 1/4	\$1.80	6	2	36	22
1/2	.76	5	1 3/16	144	7 3/4	1 1/2	2.20	4	2 1/4	24	36
1/2	.76	6	1 1/2	144	9	1 1/2	2.20	5	2 3/8	24	36 1/2
3/4	1.00	4	1 3/8	72	13	1 1/2	2.20	6	2 3/8	24	36 1/2
3/4	1.00	5	1 1/2	72	14	2	3.40	4	2 11/16	12	38
3/4	1.00	6	1 1/2	72	14	2	3.40	5	2 7/8	12	48
1	1.55	4	1 11/16	36	19	2	3.40	6	2 7/8	12	48
1	1.55	5	1 13/16	36	20	2 1/4	3.80	4	2 5/16	12	59
1	1.55	6	1 13/16	36	20	2 1/4	3.80	5	3	12	61
1 1/4	1.80	4	1 15/16	36	21	2 1/4	3.80	6	3 1/16	12	63
1 1/4	1.80	5	2	36	22	...	...	...	...	...	...

King Double Bolt Clamps



The King is one of the
most practical clamps for
use on oil, water or sand
suction, concrete placing, oil
or hydraulic discharge hose.
Is easily attached and will
stand great strain.

The King will take care
of a wide range of hose wall
thicknesses.

Made permanently rust proof through the electrolytic
application of cadmium. This process effectively protects
the metal from rust and corrosion and at the same time pre-
sents a clean and attractive silver-like finish.

No.	Malleable Iron Each	Brass Each	Will Fit Hose Outside DIAMETERS, INCHES From To	Weight Pounds
400	\$1.00	\$2.25	3 1/2 4	1.8
463	1.10	2.50	4 1/16 4 5/8	1.85
525	1.50	3.00	4 11/16 5 1/4	2.5
600	1.75	4.00	5 5/16 6 1/16	2.6
675	2.00	5.00	6 1/8 6 7/8	3.35
769	2.40	6.00	6 15/16 7 5/8	3.65
818	3.00	7.00	7 1/16 8 3/16	4.85
875	3.40	8.00	8 3/4 8 7/8	6.
988	3.80	9.00	8 15/16 9 7/8	6.65
1125	5.25	13.00	9 1/16 11 3/8	8.7
1275	6.50	15.00	11 7/16 13	9.7
1450	9.00	20.00	13 1/16 15	14.55
1700	11.00	24.00	15 1/16 17 1/4	20.

King Rustproof Malleable Iron Single Bolt Hose Clamps

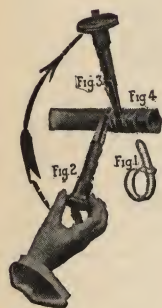


For all hose where a shank coupling or iron pipe nipple is used.

The sliding tongue is full width of clamp. Cannot buckle and further assures a perfect leakproof seal. Has strong sturdy bolt lugs. Thoroughly rust-proofed by electrolytic application of cadmium.

No.	Per 100	Fits Hose O.D. Diam., In. From	To	No. Clamps to Carton	Wt. Lbs. per 100
2	\$6.75	$\frac{1}{8}$	1	100	6
3	8.00	$\frac{31}{32}$	$1\frac{1}{8}$	100	8
4	9.00	$1\frac{1}{16}$	$1\frac{1}{32}$	100	10
5	10.00	$1\frac{1}{8}$	$1\frac{1}{16}$	100	11
6	11.00	$1\frac{3}{16}$	$1\frac{1}{8}$	100	13
7	11.50	$1\frac{1}{2}$	$1\frac{1}{16}$	100	14
8	14.00	$1\frac{13}{32}$	$1\frac{1}{8}$	100	16
9	14.50	$1\frac{11}{32}$	$1\frac{3}{16}$	100	17
10	15.50	$1\frac{1}{2}$	$1\frac{1}{16}$	50	19
11	16.50	$1\frac{3}{4}$	$1\frac{1}{8}$	50	21
12	17.50	$1\frac{7}{8}$	$2\frac{1}{16}$	50	23
13	19.00	2	$2\frac{1}{4}$	50	28
14	20.50	$2\frac{3}{32}$	$2\frac{1}{16}$	50	29
15	21.50	$2\frac{1}{4}$	$2\frac{1}{2}$	50	30
16	22.50	$2\frac{5}{8}$	$2\frac{3}{8}$	50	36
17	23.25	$2\frac{1}{2}$	$2\frac{3}{4}$	50	38
18	24.50	$2\frac{5}{8}$	$2\frac{1}{2}$	50	42
19	26.50	$2\frac{7}{8}$	$3\frac{1}{16}$	25	44
20	28.75	$3\frac{1}{16}$	$3\frac{3}{8}$	25	46
21	35.00	$3\frac{3}{4}$	$3\frac{1}{2}$	25	48
22	41.25	$3\frac{1}{2}$	$3\frac{3}{4}$	25	77
23	42.50	$3\frac{5}{8}$	$3\frac{1}{2}$	25	83
24	55.00	$3\frac{1}{2}$	$4\frac{1}{8}$	25	90
25	63.00	$4\frac{1}{8}$	$4\frac{1}{2}$	25	100
26	71.00	$4\frac{1}{4}$	$4\frac{1}{2}$	Bulk	106
27	74.00	$4\frac{1}{16}$	$4\frac{3}{4}$	Bulk	112
27-X	80.00	$4\frac{5}{8}$	5	Bulk	114
28	85.00	$4\frac{7}{8}$	$5\frac{1}{4}$	....	120

Grip-Tight Hose Bands



For water, air, steam, suction, brewers' and all other kinds of hose. Economical, easy to apply and very effective.

Made of special rust-proof galvanized steel wire. Only one size band is needed for each size of hose.

How To Apply.—Place band across hose with the hands, the narrow end towards the bottom. Then bend band around hose, passing the welded end through the wide end of band, so that it will appear like Fig. 1 on the hose. Engage hose tool as illustrated, and turn wheel towards the right to tighten band, as shown in Fig. 2. Hold hose firmly with left hand and push tool forward with the right to position

shown in Fig. 3, and release tool by turning wheel to the left. Then clip off surplus wire, leaving ends long enough to be clinched as shown in Fig. 4.

The $1\frac{1}{2}$ -inch bands are used for $1\frac{1}{4}$ -inch hose; 2-inch bands for $1\frac{3}{4}$ -inch hose.

Packed 100 bands in a carton.

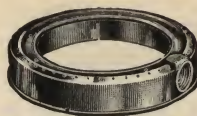
I.D. Hose In.	Per 100	Length Band In.	Ship. Wt., Lbs. per 100
$\frac{1}{4}$	\$2.00	$3\frac{1}{2}$	$\frac{1}{2}$
$\frac{1}{2}$	2.40	$4\frac{3}{4}$	$1\frac{1}{2}$
$\frac{3}{4}$	2.60	$5\frac{3}{4}$	$1\frac{3}{4}$
1	3.80	$7\frac{1}{4}$	3
$1\frac{1}{2}$	4.80	$9\frac{3}{4}$	$5\frac{1}{2}$
2	5.80	$11\frac{3}{8}$	6
3	6.80	15	16
4	8.00	$18\frac{1}{4}$	18

Grip-Tight Hose Tools

For applying Grip-Tight Hose Bands.

No. 1, for $\frac{1}{4}$ to 1-Inch Hose.....	each	\$2.50
No. 2, for $\frac{1}{2}$ to 4-Inch Hose.....	each	4.00

No. 7016 Allen Ring Lawn Sprinklers



Made of heavy sheet brass and is so strongly crimped that it cannot be forced apart under heavy pressure.

Diameter $8\frac{1}{2}$ inches; with inserted $\frac{3}{4}$ -inch solid hose connection with clean, sharp, cut threads.

1 doz. in a carton. Weight, $13\frac{1}{2}$ lbs.

No. 7016, All Brass.....per dozen \$12.60

No. 7016, Chromium Plated.....per dozen 13.80

No. 261 Buckeye Half Circle Lawn Sprinklers



A brass sprinkler.

Can be moved without shutting off water. Length $10\frac{1}{8}$ inches. Height $1\frac{5}{8}$ inches. 1 dozen in a carton.

Shipping weight, $8\frac{1}{2}$ pounds.

No. 261, All Brass.....per dozen \$9.50

No. 261, Chromium Plated.....per dozen 10.75

Allen Cast Brass Flat Sprayers



Ideal for sprinkling delicate flowers, tender plants, gardens or for watering parkways. An unobstructed inlet, patented interior construction and the perforated head combine to produce a full capacity nozzle, throwing a fine, fan-shaped spray about the proportions of 8 to 1.

The top is heavy gage sheet brass with small perforations and is approximately $\frac{7}{8} \times 5\frac{1}{4}$ inches. The body is heavy and is made of cast brass. Has $\frac{3}{4}$ -inch hose connection with clean, sharp die-cut threads. The connection is grooved at the bottom of the threads for the rubber washer.

Shipping weight per dozen, 9 pounds.

Brass Finish.....per dozen \$6.32

Brass, Nickel Plated.....per dozen 7.00

Brass, with Shut-Off.....per dozen 10.75

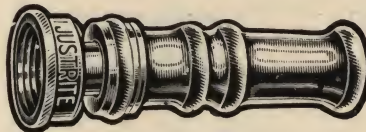
Garden Hose Siamese



This device permits 2 sprinklers to be run from 1 line of hose. The $\frac{3}{4}$ and 1-inch sizes are made in cast brass, hose thread only. Sizes, $1\frac{1}{4}$, $1\frac{1}{2}$ and 2 inches, prices upon application.

Size, In.	Per Dozen
$\frac{3}{4} \times \frac{3}{4} \times \frac{3}{4}$	\$8.00
1 x $\frac{3}{4} \times \frac{3}{4}$	9.60
1 x 1 x 1	17.60

Justrite Cast Brass Garden Hose Nozzles



Packed 12 in a box; 12 doz. in a case. Shipping weight per gross $70\frac{1}{4}$ pounds.

$\frac{3}{4}$ -Inch Brass.....per dozen \$7.20

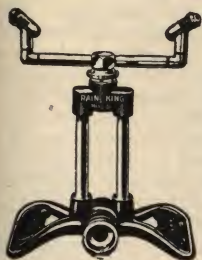
Plain Nozzles



Made of polished cast brass. Table gives standard discharges on nozzles. Discharges different from standard at extra charge. Always supply thread information when ordering.

Size Inches	Length Inches	Dis- charge Inches	Per Dozen	Size Inches	Length Inches	Dis- charge Inches	Per Dozen
$\frac{3}{4}$	3	$\frac{1}{4}$	\$4.00	$1\frac{1}{2}$	10	$\frac{1}{2}$	\$20.00
$\frac{3}{4}$	6	$\frac{1}{4}$	7.00	$1\frac{1}{2}$	12	$\frac{1}{2}$	22.00
$\frac{3}{4}$	8	$\frac{1}{4}$	8.00	2	$6\frac{3}{4}$	$\frac{9}{16}$	26.00
1	4	$\frac{5}{16}$	5.00	2	12	$\frac{9}{16}$	34.00
1	8	$\frac{5}{16}$	9.00	$2\frac{1}{2}$	$7\frac{1}{2}$	$\frac{5}{8}$	37.00
$1\frac{1}{4}$	$4\frac{3}{4}$	$\frac{3}{8}$	12.00	$2\frac{1}{2}$	12	1	55.00
$1\frac{1}{4}$	10	$\frac{3}{8}$	15.00	$2\frac{1}{2}$	15	1	65.00
$1\frac{1}{4}$	12	$\frac{3}{8}$	18.00	$2\frac{1}{2}$	18	$1\frac{1}{8}$	80.00
$1\frac{1}{2}$	$5\frac{3}{4}$	$\frac{1}{2}$	18.00	$2\frac{1}{2}$	22	$1\frac{1}{8}$	92.00

Model D Rain King Sprinklers



This sprinkler may be quickly set to cover large or small areas, and for revolving or stationary sprinkling.

Waters circles, long narrow strips, odd plots. Each nozzle a sprinkler in itself, quickly adjusted for distance, direction and volume.

Phosphor-bronze bearing.

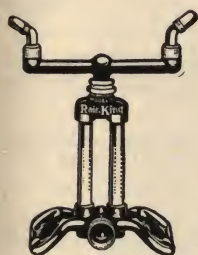
Height, 9 inches; width at base, 7¼ inches.

Nozzles, cross-arms, double water column, hand lock wheel, and coupling, all brass. Other parts, red enamel.

Packed 1 in carton; weight 2¾ pounds; 12 in case; weight 38 pounds.

Model D.....each \$2.85

Model H Rain King Sprinklers



The Model H puts out over 300 gallons of water per hour on 20 pounds pressure, when set for the misty spray. It is equally outstanding in performance when set for coarse or medium shower.

Short-stem nozzles for greater accuracy. Chromium plated nozzles, uprights and fittings of solid brass. Green base, head and arms.

Height, 11¼ inches. Distance from nozzle to nozzle, 9¼ inches.

Packed 1 in a carton.

Shipping weight, 5 pounds.

Model H.....each \$3.75

Model G Rain King Sprinklers



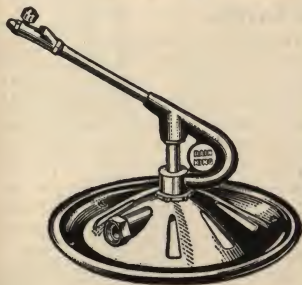
Can be set to revolve as slowly as desired for soaking downpour without danger of stalling even in high winds or on hillsides. Can be set to revolve faster for lighter spray on flowers, seeded beds, etc. Less than a quarter turn of the lever on the nozzle gives any kind of close-in, far-out or in-between spray. The 2-jet nozzle breaks up the stream as fine or as coarse as desired.

At 20 pounds pressure Model G will distribute 240 gallons of water over a 65-foot circle. Disc-type base easy to move across the lawn without damage to turf. Lock wheel for stationary sprinkling.

Streamline design with green enameled body; brass arm nozzle, upright; bronze bearings. Shipping wt., 5½ lbs.

Model G.....each \$3.95

Model J Rain King Sprinklers



Ideal for golf greens, parks, cemeteries and large lawns. Easy to move; will not upset.

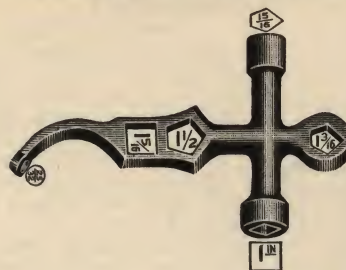
Has 3 sets of nozzle inserts for all pressures. Big nozzle at 75 pounds pressure covers circle, 140 feet across. At 55 pounds medium nozzle covers circle 120 feet across. At 35 pounds small nozzle covers circle 90 feet across.

Bearings are of phosphor bronze. Patented triple-jet nozzle with vibrating eccentric permits slow turning,

even in wind. Stands 14 inches high; heavy steel base 14 inches across; galvanized under enamel, throws 1600 gallons of water an hour on 70 pounds pressure.

Model J.....each \$7.95

Fire Hydrant Wrenches

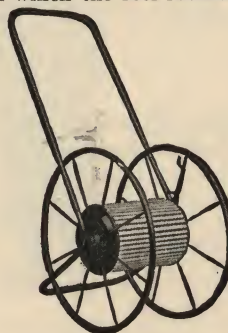


This wrench is adapted for all around use of firemen. The assortment of holes will fit any standard fire plug. The measurements of the pentagonal openings are from one side to the opposite angle. Length, 13 inches.

Per Dozen.....\$24.00

Style B Wirt and Knox Tubular All Metal Hose Reels

Frame can be tilted down to the ground and forms a stand in which the reel revolves. There are no exposed spokes to interfere with either operation. This reel cannot tip over when unreeling. The weight of the hose is borne upon the rims. All metal tubular steel rims and frame, steel spokes and steel reel head, corrugated galvanized sheet steel drum.



Reel No.	Height Reel Inches	CAP. RUBBER HOSE, FT. DIAMETER, IN.		Weight Pounds	Price Each
		3/4	1		
10	21	100	50	15	\$4.80
20	24	150	75	17	5.40

Galvanized Fire Pails

Round Bottom



This pail is made of steel, galvanized outside and inside and painted red outside.

The advantage of having fire pails fitted with round bottoms is that the pail must be stood in a special rack or hung up. This is a long step toward the prevention of having the pail used for other purposes.

In bundles of one dozen each.

No.	Cap. Qts.	Size Inches	Bundle Wt. Lbs.	Price per Dozen
310	10	9½x10	24½	....
312	12	10½x10½	26½	....

True Temper Firemen's Pick Axes



Forged from finest grade selected axe steel, normalized and tempered. Polished bit and pick. Poll painted red.

Furnished with 36-inch hickory handle; painted red.

Packed 6 in a crate.

Weight of Head...lb.	3½	4	4½	5	6	8
Per Dozen.....

Pyrene Guardene 2½-Gallon Fire Extinguishers

Soda-Acid Type



Discharges 40-foot stream, effective on incipient fires in ordinary combustibles. Non-slop type is for vehicles and vessels. Has patented press assembled collar and seamless drawn dome and shell of one-piece copper. Labeled by Underwriters' Lab.

Fire Department type has non-slop stopple, longer hose, shut-off nozzle, and pressure relief valve.

Complete with charge, wall hanger, recharge date tag. Height, 24 inches. Diameter, 7 inches. Shipping weight, with charge, 19½ pounds, fully charged for use, 37½ pounds.

*No. S13, Polished Copper.....ea. \$19.00

*No. S12, Copper, Nickel Plated.ea. 21.00

*No. S14, Copper, Chrom. Plated.ea. 22.00

*No. S23, Non-Slop, Pol. Copper.ea. 20.00

*If supplied with relief valve, add \$2.00.

No. SN33, Fire Dept., Special Alloy Polished.....each \$40.00

No. SN32, Fire Dept., Nickel Plated.....each 42.00

No. SN34, Fire Dept., Chromium Plated.....each 43.00

No. PFV1, Extra Pressure Relief Valve.....each 1.50

Soda-Acid Recharges

No. SR1, 2½ Gallon Can.....each \$ 5.55

No. SR2, 20 Gallon Can.....each 3.50

No. SR3, 40 Gallon Can.....each 5.00

Pyrene Essanay 2½-Gallon Fire Extinguishers

Soda and Acid Type



The Essanay will extinguish incipient fires in free-burning materials where the cooling and quenching effect of water is of first importance. It throws a stream 40 feet in any direction. It should be protected against frost.

Made of cold-rolled copper. The interior is completely coated with a lead-alloy.

Labeled by Underwriters' Laboratories and approved by Associated Factory Mutuals and U. S. Bureau of Marine Investigation and Navigation.

No. SX13, Polished Copper.....ea. \$16.50

No. SX12, Copper, N. P.....ea. 18.50

No. SX14, Copper, Chromium-

Plated.....ea. 19.50

No. SXR1, Recharge.....ea. 40

Pyrene Fastfoam 2½-Gallon Fire Extinguishers

Foam Type



The Fastfoam blankets fire—particularly fires in oil, gasoline, naphtha, tar, wax, grease, shellac and flammable solvents.

It releases 22 gallons of tough fire-killing foam. The foam spreads rapidly over burning surface, cutting off supply of oxygen. Once extinguished, fire cannot reignite as the foam blanket is still there.

Labeled by The Underwriters' Laboratories and approved by Factory Mutuals and U.S. Bureau of Marine Inspection and Navigation.

No. PX13, Polished Copper.....ea. \$19.50

No. PX12, Copper, N. P.....ea. 21.50

No. PX14, Copper, Chromium-

Plated.....ea. 22.50

No. PXR1, Recharge.....ea. 1.15

Hydrogarde Fire Extinguishers



This water type extinguisher discharges a 40 to 50-ft. stream of plain water without pumping or chemicals, by means of pressure from a carbon dioxide gas cartridge. For fires in wood, paper, textiles, etc. Filled with distilled water, it may be used on telephone switchboard fires. Operated by turning upside down and striking plunger on floor to release gas pressure. Safety valve relieves excessive pressure in case of over-filling with water. Annual recharging is not required; refill with water and insert new cartridge. Inspected and labeled by Underwriters' Laboratories. Cap., 2½ gallons.

No. H13, Polished Copper.....each \$22.50

No. H12, Copper, N. P.....each 24.50

No. H14, Copper, C. P.....each 25.50

No. H15, Copper, Enamel Fin.....each 22.50

No. HC1 extra cartridge complete and recharging cartridges prices on request.

Pyrene Phomene 2½-Gallon Fire Extinguishers

Foam Type



Discharges about 22 gallons of foam that floats on liquids, clings to ordinary combustibles and smothers the fire.

Has seamless drawn one-piece shell and dome and patented solderless collar. No side seams or rivets.

Fire Department type is of special alloy, with manual stopple, longer hose, shut-off nozzle, and relief valve.

Labeled by Underwriters' Laboratories.

Complete with charge, wall hanger and recharge date tag.

Height, 24 inches. Diameter, 7 inches. Shipping weight, including charge, 25 pounds, fully charged ready for use, 37 pounds.

*No. P13, Polished Copper.....each \$22.00

*No. P12, Copper, Nickel Plated.....each 24.00

*No. P14, Copper, Chromium Plated.....each 25.00

No. PN23, Fire Dept., Special Alloy Polished.ea. 40.00

No. PN22, Fire Dept., Nickel Plated.....each 42.00

No. PN24, Fire Dept., Chromium Plated.....each 43.00

No. PFV1, Extra Pressure Relief Valve.....each 1.50

*If supplied with pressure relief valve to meet Bureau of Marine Inspection and Navigation requirements, add \$2.00.

Foam Recharges

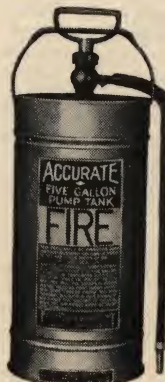
No. PR1, 2½ Gallon Can.....each \$1.60

No. PR3, 10 Gallon Can.....each 6.00

No. PR5, 20 Gallon Can.....each 9.00

No. PR6, 40 Gallon Can.....each 11.75

No. T-15 Pyrene Accurate 5-Gallon Pump Tanks



This extinguisher throws a steady, continuous 40-foot stream. Has double acting pump of heavy brass. Heavily lined to prevent rusting. Approved by the Underwriters' Laboratories, the U. S. Bureau of Marine Inspection and Navigation, and Associated Factory Mutual Laboratories. Where in danger of freezing, extinguisher should be charged with a solution of Accurate Anti-Freeze and water. Packed 1 in carton.

No. T-15, Wt. 16½ Lb.each \$22.00

Anti-Freeze Charge

For 10° above zero use 10 pounds; for 10° below zero use 15 pounds; for 40° below zero use 20 pounds.

No. TR-1, 20 Lb. \$3.00

We are distributors of the
U.S. ROYAL MAROON
line of **RUBBER SPECIALTIES.**

Made entirely of non-blooming
stock of the highest quality.

Pyrene Fire Extinguishers

For use on all electrical fires and fires from oil, paint, or highly inflammable materials. Liquid is a non-conductor of electricity. Will not freeze at 50° F. below zero.

Size 1 pint and 1 quart, 12 in package; 1½-quart, 6 in package. When ordering enamel finish, specify color.



No.	Charged Each	Description	Cap.
C11	\$10.00	Brass, with Wall Bracket.	1-Pt.
C11A	10.50	Brass, with Auto Bracket.	1-Pt.
C14	12.00	Chromium, with Wall Bracket.	1-Pt.
C14A	12.50	Chromium, with Auto Bracket.	1-Pt.
C21	14.00	Brass, with Wall Bracket.	1-Qt.
C21M	14.00	Brass, Motorcycle Type.	1-Qt.
C21P	14.00	Brass, Airplane Type.	1-Qt.
C21T	14.00	Brass, Heavy Vehicle, Wall Bracket.	1-Qt.
C21TS	15.00	Brass, Heavy Vehicle, with Post Bracket.	1-Qt.
C22	15.50	Nickel, with Wall Bracket.	1-Qt.
C24	16.00	Chromium, with Wall Bracket.	1-Qt.
C25	14.00	Enamel Finish, Wall Bracket.	1-Qt.
C31	17.00	Brass, with Wall Bracket.	1½-Qt.
C31T	17.00	Brass, Heavy Vehicle, with Wall Bracket.	1½-Qt.
C32	18.50	Nickel, with Wall Bracket.	1½-Qt.
C34	19.00	Chromium, with Wall Bracket.	1½-Qt.
C35	17.00	Enamel Finish, Wall Bracket.	1½-Qt.

For price of extinguisher without bracket, deduct prices below.

Extra Brackets

No.	Each	For Size Extinguisher	No.	Each	For Size Extinguisher
B1	\$.75	1-Pt. Standard	B3T	\$1.00	1-Qt. Truck (Clamp Type)
B1A	1.50	1-Pt. Auto	B3TS	2.00	1-Qt. Truck, Steering Post
B2	1.00	1-Qt. Standard	B4T	1.50	1½-Qt. Truck, Wall
B2B	1.50	1-Qt. Marine Brass			

Fire Extinguishing Liquid in Cans

No.	Each	Size Can	No.	Each	Size Can
CR1	\$.75	1-Pint	CR10	\$3.00	2-Quart
CR2	1.50	1-Quart	CR4	5.40	1-Gallon
CR3	2.25	1½-Quart			

C-O-Two Portable Hand Type Fire Extinguishers

Carbon dioxide type for highly inflammable liquids, paints, oil, solvents and alcohol fires.

Cylinder is of special light weight chrome molybdenum steel complying with I.C.C. regulations. Cylinder valve and hand wheel are of naval brass forgings. Chrome finish is standard. High pressure metallic and rubber hose with cotton braided cover. The discharge horn is of fabricated non-breakable material.

Listed, labeled and approved by Underwriters' Laboratories.

Height of 7½-pound size, 30 in.; diam., 4½ in. Weight, 33 lbs. Hose, 36 in.



7½-Pound Size



Fish Brand Pilot Waterproof Hats

This hat is made in 2 styles, No. 4, yellow, and No. B4, black.

Furnished in sizes, 6¾, 7, 7½ and 7¾.

Price, No. 4.... per dozen \$7.80

Price, No. 4B... per dozen 7.80

Fish Brand Reflex Medium Waterproof Coats



Double throughout.

Fitted with inside storm-lap and reflex edges, clothlined collar, inside storm-cuffs and two stay-fast pockets.

Made in No. Y421 yellow and No. B421 black.

Size No.	Per Dozen	Size Chest Inches	Length Inches
0	\$33.00	44-46	44
1	33.00	41-43	44
2	33.00	38-40	44
3	33.00	35-37	44

Fish Brand Reflex Waterproof Slickers



A high grade all-around wet-weather garment.

Double throughout. Fitted with inside storm-lap and reflex edges. Has two stay-fast pockets that will not rip and collar clothlined with throat piece.

Made in the following colors: No. Y121 yellow, No. B121, black and No. O.K. 121, olive khaki.

Size No.	Per Dozen	Size Chest Inches	Length Inches
0	\$37.20	44-46	56
1	37.20	41-43	54
2	37.20	38-40	52
3	37.20	35-37	52



Fish Brand Waterproof String Pants

String pants are double throughout and are fitted with draw strings at waist.

No. 901 is olive khaki.

No. B901 is black.

Size No....	0	1	2	3
Per Dozen.	\$18.00	18.00	18.00	18.00
Size Waist.. in.	44-46	41-43	38-40	35-37
Size Leg... in.	30	29	28	27

Waterproof Aprons

Common Barvel

Used by men who work in the wet, such as automobile washers, packers, canners and dairymen.

A medium weight sheeting apron made double throughout.

Size, 45x33 inches.

No. Y4101, Yellow.... per dozen \$9.60

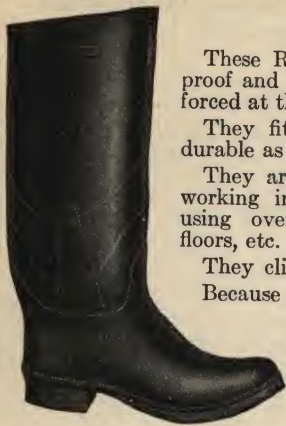
No. B4101, Black..... per dozen 9.60

Reversible Barvel

Made the same as the above but finished on both sides and so gives double the wear.

No. Y4112, Yellow... per dozen \$12.00



Rubber Boots

These Rubber Boots are strong, water-proof and durable, and are specially reinforced at the ankle to prevent cracking.

They fit well, look well and are most durable as to wear.

They are useful around the garage for working in damp places, such as when using overhead washers, cleaning cars floors, etc.

They cling snugly to the wearer's shoe.

Because an exact fit is the prime essential of long wear and neat appearance, there is a Rubber Boot for every foot.

Made in all sizes.

Price upon application.

Rubber Hip Boots

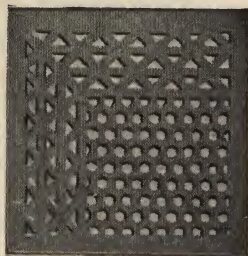
Storm King

A heavily constructed boot with maroon sole and black heel.

Leg lining of duck. The Storm King boot has a skirt lining of calendered net; hip boot made with drill.

Top boot has a pure gum inside reinforcement at knee, which prevents skirt from cracking when turned down.

Men's Hip.....per pr. \$5.50
Men's Storm King.....per pr. 5.00

U. S. Perforated and Corrugated Mats

A mat of unusual quality and durability. It is noiseless and conformable to uneven surfaces, sanitary and easily cleaned. There is no metal to warp, break and stain or scratch marble floors or stairs.

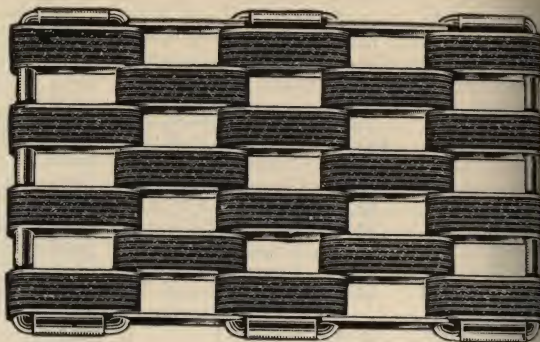
On finely finished floors and in front of soda fountains, a special rubber-proofed solid canvas back is recommended, which makes the cells of the mat water-tight. Dirt and moisture are thus held in the cells and can be readily removed when the mats are cleaned.

Used outside and inside of entrances to office buildings, theatres, hotels, elevators; in front of soda fountains and counters; for use on yachts and automobiles.

Mats can be furnished with either smooth or corrugated surface, although the latter is more generally used, as it is a better shoe scraper. In red, green, black, white, blue, gold, salmon, yellow, gray, cream, maroon, red and light buff.

Names, monograms, initials, numbers and advertising slogans can be inserted in perforated mats at an additional charge.

Prices upon application.

Everwear Mats

Everwear Mats are used in corridors, entrances, lobbies, stairways, elevators, hallways and kitchens.

Made from high grade asphalt saturated felt solidly clamped between heavy galvanized steel plates and bound together with galvanized steel rods. The spacers are seamless brass tubing.

Everwear Mats are practically indestructible, are water-proof and sanitary and do not slide on the floor.

No.	2	3	4	6
Size.....in.	16x26	18x29	22x35	24x41
Each.....	\$3.00	3.65	5.35	6.85

U.S. Matting**Corrugated**

For indoor service. Indispensable as runners for wet days. A sanitary and practical floor covering for all public or private buildings where there is continual traffic.

Easily cleaned. Will not scratch the most highly polished floor.

Available in black blooming, black non-blooming, maroon, and white. Standard width, 36 inches; maximum width, 72 inches; thicknesses, $\frac{3}{32}$, $\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{16}$, and $\frac{1}{2}$ inch.

In any desired lengths.

Pyramid

Made from the same long wearing compound as corrugated matting. The pyramid tread is somewhat more decorative than the corrugated style.

Furnished in standard widths up to 48 inches; $\frac{1}{8}$, $\frac{3}{16}$, $\frac{1}{4}$, and $\frac{1}{2}$ inch thick. Supplied in black, Style E6004 and white, Style E6040. In any desired lengths.

Knob

An unusually durable matting especially made for severe service on street and railway steps, platforms, etc.

The sturdy knob tread withstands the gaff of constant wear. Furnished in widths of 27 up to 48 inches wide; $\frac{3}{16}$, $\frac{1}{4}$, $\frac{3}{16}$, and $\frac{3}{8}$ inch thick. Made in black only. In any desired lengths.

Rubber Stair Treads

Molded or cut stair treads furnished in corrugated, pyramid or knob pattern.

Molded treads made in $\frac{3}{32}$ and $\frac{1}{8}$ -inch thicknesses; cut in $\frac{3}{32}$, $\frac{1}{8}$, $\frac{3}{16}$ and $\frac{1}{4}$ -inch thicknesses.

Prices and further information furnished upon application.

U. S. Rainbow Sheet Packing



Will pack an air, steam, hot or cold water joint equally well.

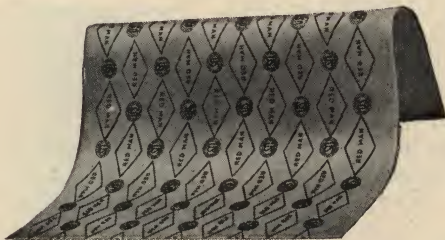
Fully tested to stand in service, without melting down and blowing out, a pressure of 150 lbs. of saturated steam.

Sufficiently pliable to fill up any irregularities in the flange and has necessary resilience to overcome vibration, contraction and expansion in line.

Standard rolls 36 inches wide.

Thickness.....inches	1/16	3/32	1/8
Approx.Weight per Sq. Yd.....pounds	5 3/8	8 1/8	10 1/4

Style No. 49 U.S. Redman Plain Red Sheet Packing



Designed for service against hot and cold water, saturated steam pressures up to 125 pounds, and general hydraulic conditions. Made of high quality compounds. 36 inches wide.

Prices upon application.

No. 999 U.S. Wizard Compressed Asbestos Sheet Packing Plain or Graphited



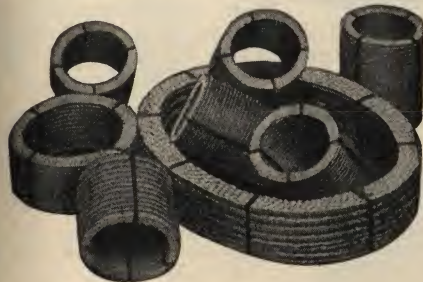
For packing flanges or joints against high pressure, superheated or saturated steam, water, air, gases, ammonia, oil, some acids, alkalies, and other chemicals. Approved by the National Board of Fire Underwriters' for use in bolted joints against hazardous liquids.

Regularly furnished in one-ply construction. Can also be furnished in the cross-laminated 2-ply construction.

Thickness.....inches	1/64	1/32	1/16	3/32	1/8
60x60-Inch Sheet.....each	.....	.....	.....	.....	.....
60x120-Inch Sheet.....each	.....	.....	.....	.....	.....
Approx. Wt. Sq. Yd.....pounds	1 1/4	2 1/8	5 1/4	7 1/8	10 1/2

Asbestos Folded Gaskets

For Manholes, Handholes and Flange Joints



Will stand high temperatures and steam pressures. May be reused many times. Folded by hand and made of asbestos wire inserted sheeting.

Furnished in any size, shape or thickness. In ordering, give

inside diameters and width of flange.

Per Pound.....

Palmetto Twist Packing



Any size valve can be packed from one spool, by unstranding, as each single strand is a perfect packing in itself.

Size In.	Per Lb.	No. Feet	Size In.	Per Lb.	No. Feet	Size In.	Per Lb.	No. Feet
1/8	\$1.65	74	5/16	\$1.65	20	1/2	\$1.65	7
3/16	1.65	57	3/8	1.65	13	..	....	..
1/4	1.65	33	7/16	1.65	10	..	....	..

No. 150 Garlock High Pressure Spiral Packing



Made of select long fibre asbestos, with a non-vulcanizing rubber cushion, and is lubricated throughout with the celebrated Garlock

compound. For use on piston rods working against high pressure and superheated steam, for expansion joints and for rods running in oil, grease or acids. Stocks of all sizes carried in 16ths from 1/8 to 2 inches. The following is a close estimate of the weights in a few of the different sizes.

No. of Feet	Size In.	Wt. Lbs.	No. of Feet	Size In.	Wt. Lbs.	No. of Feet	Size In.	Wt. Lbs.
12 1/2	1/4	3 1/4	12 1/2	5/8	4 1/4	12 1/2	1	10 3/4
12 1/2	3/8	1 3/4	12 1/2	3/4	6	12 1/2	1 1/8	13
12 1/2	1/2	2 3/4	12 1/2	7/8	8 1/2	12 1/2	1 1/4	16
Price, No. 150.....per pound								\$2.50

No. 777 Garlock Extra Spiral Packing



Made of rubber and duck of best quality and is thoroughly lubricated.

Will give excellent service on medium pressure steam, hot water and ammonia.

In all sizes, in sixteenths from 1/8 to 1 1/2 inches.

No. 777.....per pound \$2.00

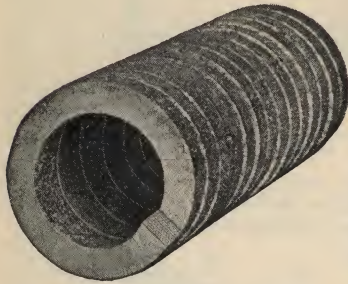
U.S. Peerless Piston Packing Style No. S-371, Spiral Style No. R-371, Ring Style No. C-371, Coil



For packing piston and valve rods against saturated steam, hot and cold water, and air. Furnished in sizes 1/4 to 1 1/2 inches inclusive, by sixteenths. When ordering rings give rod diameter, inside diameter, depth of stuffing box.

Per Pound..... \$2.00

Style No. S-381 U.S. Low Pressure Spiral Steam Packing



For service on rods and plungers against low and medium pressure steam and hot and cold water.

Constructed of plies of special grade and weight of duck cemented together with a rubber compound of unusual strength and quality. Does not become hard in service. Lubricated and graphited.

Furnished in sizes $\frac{1}{8}$ to $1\frac{1}{2}$ inches inclusive, vary-

ing by sixteenths. Other sizes on request. Furnished in $12\frac{1}{2}$ -foot lengths. Spirals per box, 1.

When ordering rings, specify diameter of rod, inside diameter and depth of stuffing box.

Size.....in. $\frac{1}{4}$ $\frac{3}{8}$ $\frac{1}{2}$ $\frac{5}{8}$ $\frac{3}{4}$ $\frac{7}{8}$ 1
Approx. Wt. per Box.lbs. $\frac{1}{2}$ $1\frac{1}{4}$ $2\frac{1}{8}$ $3\frac{3}{8}$ $4\frac{1}{8}$ $6\frac{1}{2}$ $8\frac{5}{8}$

Prices upon application.

U.S. Fine White Hydraulic Piston Packing



Designed for service on inside packed pumps against hot or cold water, brine, and cold oil.

Made of cross laminations of high quality fabric, frictioned together with a strong white rubber cement.

Furnished in regular cure unless otherwise specified. Can also be supplied with rock hard cure for use in extremely hot water. Either cure can be furnished stitched.

Furnished in $12\frac{1}{2}$ -foot lengths.

Size.....inches $\frac{1}{4}$ $\frac{3}{8}$ $\frac{1}{2}$ $\frac{5}{8}$ $\frac{3}{4}$ $\frac{7}{8}$ 1
No. C-573, Coil...per lb.
No. R-573-S, Solid Ring
.....per lb.
No. R-573-MJ, Mortise
Joint Ring.....per lb.
Coils per Box..... 4 5 4 3 2 2 2
Approx. Weight per Box
.....pounds $1\frac{3}{4}$ $5\frac{1}{2}$ $7\frac{7}{8}$ $9\frac{1}{4}$ $8\frac{3}{4}$ 12 $15\frac{3}{4}$
Approx. Weight per 100
Feet.....pounds $3\frac{3}{4}$ $8\frac{3}{4}$ $15\frac{3}{4}$ $24\frac{1}{8}$ $34\frac{1}{8}$ $47\frac{1}{8}$ 63

Style No. 623 U.S. Huron Brand Jute Packing
Style No. C-623, Coil **Style No. R-623, Ring**



Recommended for all hydraulic services that require a serviceable, low-priced and durable cold water packing.

Made from strong jute fibre, braided with corners

and centers of the same material and well lubricated.

Furnished in sizes $\frac{1}{8}$ -inch and up. Supplied on reels if desired.

Size.....in. $\frac{1}{4}$ $\frac{3}{8}$ $\frac{1}{2}$ $\frac{5}{8}$ $\frac{3}{4}$ $\frac{7}{8}$ 1
Style No. 623...per lb.
Coils per Box..... 4 5 4 3 1 1 1
Approx. Ft. per Box... 68 95 52 50 42 36 31
Approx. Wt. per Box lbs.. $2\frac{1}{4}$ $7\frac{7}{8}$ $7\frac{7}{8}$ $11\frac{1}{8}$ $12\frac{1}{8}$ 14 $16\frac{3}{4}$

When ordering rings, specify diameter of rod, inside diameter and depth of stuffing box.

Candle Wick

In Balls



Carefully manufactured of cotton specially selected for the purpose.

For packing small valve stems, etc.

Furnished in $\frac{1}{8}$ and $\frac{1}{4}$ -pound balls.

Per Pound.....

Asbestos Wick

Standard Style



Standard Asbestos Wick is long fibred, hard twisted for wire wiping and stem packing.

No. feet per pound, 80.

Price.....per pound \$1.00

H & A Tarred Twisted Jute Packing

Made entirely of jute and is tarred. Used for caulking lead, soil and iron pipe. Packed in 50 and 100-pound coils and is about $1\frac{1}{4}$ inches in diameter, 8 threads.

H & A Untarred Twisted Jute Packing

Made of jute and is untarred, but slightly oiled. Used for caulking water supply pipes.

Approximately $1\frac{1}{4}$ -inch diameter 8 threads. Supplied in 50 and 100-pound coils.

Per Pound.....

H & A Unoiled (Dry) Twisted Jute Packing

Made entirely of jute and is the same as untarred packing except that it is dry, having no oil whatever. Used in connection with substitutes for lead.

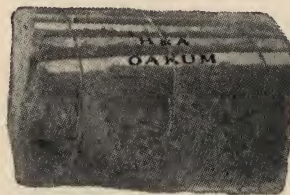
Approximately $1\frac{1}{4}$ -inch diameter 8 threads.

Supplied in 50 and 100-pound coils.

Per Pound.....

No. 1 H & A Mayflower Marine Oakum

Unspun



Made from first quality Sunn hemp and carefully treated with the best quality old process tar. Fully up to U. S. Government specifications.

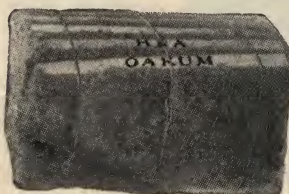
No. 2 H & A Clermont Marine Oakum

Unspun

Made from high quality fibre and carefully treated with the best quality old process tar. For general marine use where high grade oakum is demanded.

Marine and Plumbers' Spun Oakum full 50-pound bales.

Machine Spun Marine Oakum, 1 cent per pound extra.



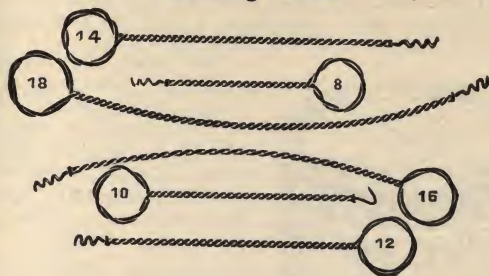
H & A Plumbers' Spun Oakum

Used for caulking soil, iron, water supply and waste water pipes. Made of jute and contains a large percentage of tar.

Supplied in 50-pound bales.

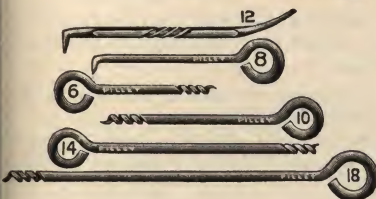
Price.....per pound

No. 881 Pilley's Rapid Action Flexible Packing Tools



Made of spring steel wire with hardened points. Can be bent to any angle. Set consists of one each, 8, 10, 12, 14, 16 and 18-inch packing tool. Packed 1 set in a box.
No. 881, Weight per Set, 13 Ounces.....per set \$3.00

Pilley's Packing Tools



Will go into any valve, rod, pump or engine stuffing box. Of special tool steel and guaranteed not to break while in use removing packing from stuffing boxes of engines and valve rods. Nickel-plated, preventing rusting.

Made of $\frac{3}{16}$, $\frac{1}{4}$ and $\frac{5}{16}$ -inch steel and in 6, 8, 10, 12, 14, and 18-inch lengths. Each set packed in separate box.

Shipping weight: Set No. 1, about 12 ounces each. Set No. 2, about 21 ounces each.

No. 1, Set of 4 Packing Tools, 6, 10, 12, 14-In....per set \$2.25
No. 2, Set of 6 Packing Tools, 6, 8, 10, 12, 14, 18-In....per set 3.25

No. 700 Clayton Mark Lower Valve Leathers

Packed 1 dozen in labeled carton.

Outside Diam. Inches	Per Dozen	For Cylinder Inches	Outside Diam. Inches	Per Dozen	For Cylinder Inches
2	\$.66	1 $\frac{1}{2}$	4 $\frac{1}{4}$	\$2.81	3 $\frac{3}{4}$
2 $\frac{1}{4}$	.79	1 $\frac{3}{4}$	4 $\frac{1}{2}$	3.14	4
2 $\frac{1}{2}$	.97	2	5	3.47	4 $\frac{1}{4}$
2 $\frac{3}{4}$	1.19	2 $\frac{1}{4}$	5 $\frac{1}{4}$	3.96	4 $\frac{1}{2}$
3	1.38	2 $\frac{1}{2}$	5 $\frac{3}{4}$	5.28	5
3 $\frac{1}{4}$	1.65	2 $\frac{3}{4}$	6 $\frac{3}{4}$	7.59	6
3 $\frac{1}{2}$	1.82	3	7 $\frac{3}{4}$	10.56	7
*3 $\frac{3}{8}$	1.82	3	8 $\frac{3}{4}$	13.20	8
3 $\frac{3}{4}$	2.18	3 $\frac{1}{4}$	9 $\frac{3}{4}$	15.84	9
4	2.48	3 $\frac{1}{2}$	10 $\frac{3}{4}$	19.80	10

*Furnished only if specified on order.

No. 702 Clayton Mark Universal Cup Leathers

Made from carefully selected oak tanned stock and recommended for ordinary use.

Packed 1 dozen in a carton.

Size Inches	Per Dozen	Size Inches	Per Dozen	Size Inches	Per Dozen
1	\$.55	2	\$1.46	4 $\frac{1}{4}$	\$4.96
1 $\frac{1}{8}$	.63	2 $\frac{1}{4}$	1.56	4 $\frac{1}{2}$	5.46
1 $\frac{1}{4}$	.69	2 $\frac{1}{2}$	1.89	4 $\frac{3}{4}$	6.19
1 $\frac{3}{8}$	.81	2 $\frac{3}{4}$	2.11	5	6.93
1 $\frac{1}{2}$	.95	3	2.37	5 $\frac{1}{4}$	7.29
1 $\frac{5}{8}$	1.10	3 $\frac{1}{4}$	2.85	5 $\frac{1}{2}$	7.88
1 $\frac{3}{4}$	1.23	3 $\frac{1}{2}$	3.50	5 $\frac{3}{4}$	8.61
1 $\frac{13}{16}$	1.35	3 $\frac{3}{4}$	3.94	6	9.34
1 $\frac{7}{8}$	1.35	4	4.52	....	....

Waste

Finest quality long thread, white cotton waste.

Especially selected for use in garages and machine shops for cleaning, wiping and polishing.

Nos. 1 and 2 White

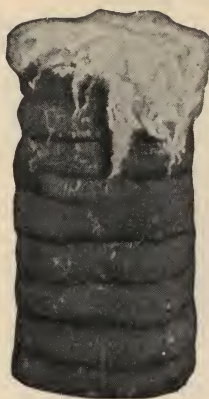
In 50-pound bales and bulk.

Prices upon application.

Nos. 1 and 2 Colored

In 50-pound bales and bulk.

Prices upon application.



Wiping Rags



These wiping rags consist of three grades, White, Colored and Underwear. Washed and sterilized.

Selected White

Packed in 50, 100 and 500-pound bales.

Price.....per pound

Selected Colored

Packed in 50, 100 and 500-pound bales.

Price.....per pound

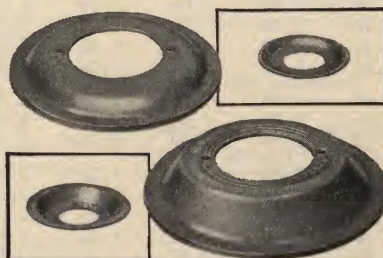
Underwear

Packed in 50, 100 and 500-pound bales.

Price.....per pound

U.S. Red Pump Diaphragms

For Loud and Edson Pumps



No.	Loud			Edson		
Pump No.	257	267	277	297	307	317
I.D.	1 in.	2 in.	3 in.	2 in.	3 in.	4 in.
O.D.	4 $\frac{1}{2}$ in.	5 $\frac{5}{8}$ in.	5 in.	4 in.	4 $\frac{7}{8}$ in.	5 $\frac{3}{4}$ in.
Wall Thick.	9 $\frac{5}{8}$ in.	12 $\frac{7}{8}$ in.	12 $\frac{5}{8}$ in.	11 in.	12 $\frac{1}{2}$ in.	14 $\frac{1}{2}$ in.
	1 $\frac{1}{4}$ in.	1 $\frac{1}{16}$ in.	3 $\frac{3}{8}$ in.	1 $\frac{1}{4}$ in.	5 $\frac{5}{16}$ in.	5 $\frac{1}{16}$ in.

Prices upon application.

Prices for special high and low pressure diaphragms will be quoted upon receipt of detailed specifications as to sizes, conditions, etc.

Diaphragms can be furnished for all purposes.

Asbestos Paper and Roll Board



*Thickness. in. $\frac{1}{32}$ $\frac{1}{16}$ $\frac{1}{8}$ $\frac{3}{32}$ $\frac{1}{2}$
 **Approx. Wt.
 100 Sq. Ft. Lbs. 16 32 48 64
 ***Actual weight may vary $\pm 10\%$.
 *Actual thickness may vary $\pm .02$ ".

$\frac{1}{32}$ " and $\frac{1}{8}$ " known as asbestos roll board.
 Furnished in 25, 50 and 100-lb. rolls.

Asbestos Cement



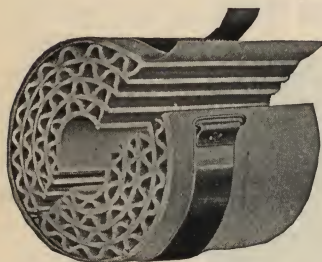
Asbestos cement is made of asbestos fiber and binding materials that have high insulating values.

It is easy to mix and apply. The durable, attractive surface does not crack or peel off.

Packed in 100-pound bags.

Per Pound.....

Asbestos Aircell Pipe Covering



This pipe covering is the standard for low pressure steam and hot water pipes.

It is made up of alternate layers of plain and corrugated asbestos paper. Sal-Mo asbestos paper is used in the manufacturing of this covering.

Pipe covering is firm and uniform in section. It is light, fire-proof and durable.

Made in sections 3 feet long. Thickness $\frac{1}{2}$, $\frac{3}{4}$ and 1 inch. Finished with canvas jacket and brass lacquered metal bands. Made to fit all standard pipe sizes.

Sold from regular sectional pipe covering lists.

Sectional Pipe Insulation

Supplied in sections 3 feet long, canvased; with brass lacquered bands.

Use standard thickness prices for thicknesses 1 inch and under.

Per Linear Foot

L.D. Pipe Inches	Standard Thickness	Double Standard Thickness	1 1/2-Inch Thickness	2-Inch Thickness	2 1/2-Inch Thickness	3-Inch Thickness, Broken Joint
1 1/2	\$.22	\$.65	\$.46	\$.75	\$1.00	\$1.20
3/4	.24	.70	.49	.80	1.05	1.35
1	.27	.75	.52	.85	1.10	1.40
1 1/4	.30	.80	.56	.90	1.15	1.45
1 1/2	.33	.85	.60	.95	1.20	1.55
2	.36	.90	.64	1.00	1.25	1.65
2 1/2	.40	1.00	.70	1.05	1.35	1.75
3	.45	1.10	.76	1.15	1.50	1.90
3 1/2	.50	1.20	.82	1.25	1.65	2.05
4	.60	1.40	.88	1.35	1.80	2.20
4 1/2	.65	1.50	.94	1.45	1.95	2.35
5	.70	1.60	1.00	1.55	2.10	2.50
6	.80	1.80	1.10	1.70	2.25	2.70
7	1.00	2.25	1.20	1.85	2.40	2.90
8	1.10	2.50	1.35	2.00	2.55	3.15
9	1.20	2.70	1.50	2.20	2.80	3.40
10	1.30	2.90	1.65	2.40	3.05	3.65
*12	1.85	4.10	1.85	2.70	3.40	4.10
14 O.D.	2.10	4.60	2.10	3.00	3.80	4.60
16 O.D.	2.35	5.10	2.35	3.30	4.20	5.10
18 O.D.	2.60	5.60	2.60	3.60	4.60	5.60
20 O.D.	2.85	6.00	2.85	4.00	5.00	6.00
24 O.D.	3.30	7.00	3.30	4.50	5.75	7.00
30 O.D.	4.00	8.40	4.00	5.50	6.95	8.40

*Sizes 12-inch and larger furnished in segmental form. 12-inch can be supplied in sectional type on special order.

†Only 85% Magnesia made in this thickness.

Rutland Furnace Cement

Used for mounting furnaces, heaters and stoves, and making joints gas tight. Composed roughly of two classes of materials, binders and inert materials.



After firing, binders and inert materials coalesce to form solid stone-like material, which is impervious to gas. Not injured by freezing. If used from drum and covered with water, it will keep indefinitely.

Black or White			Black		
Size	No.		Size	No.	
Can	Per		Con-		
Lbs.	Lb.	Case	tainer		Per
					Lb.
1	\$.18	24	25-Lb. Pail		\$.13
2	.17	24	50-Lb. Drum		.13
3	.16	18	100-Lb. Drum		.11
5	.14	12	750-Lb. Drum		.10
10	.13	6			

Rutland Concrete Patcher



Rutland Concrete Patcher is used for any repair job requiring the use of concrete.

Repairing breaks in sidewalks and cement floors. Stopping leaks in cisterns. and concrete tanks. Filling holes and stopping leaks in concrete foundations. Patching breaks in concrete steps. Pointing up joints in brick and stone masonry. Setting loose tiles. Constructing drains for spouts and other outlets. Performing tree surgery. Stopping rat holes and vermin cracks.

Requires only the addition of water to prepare it.

Size Package.....	pounds	3 1/4	6 1/2
Per Dozen.....		\$3.60	6.00
No. to Case.....		24	12

Rutland Patching Plaster



Used for repairing small breaks in plastered walls, and for pointing and patching stucco and brick surfaces.

Contains no filler; every material used is there for a purpose. Pure white in color.

Will not shrink and leave a crack around the edge of the patch.

Dries thoroughly in short time, worked readily.

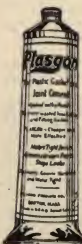
Will not of itself crack or crumble.

Size Package.....	pounds	2 1/2	5	8	15
Per Dozen.....		\$3.60	6.00	8.40	12.00
No. Packages in Case.....		24	12	6	4

350-Pound Barrels.....per pound \$0.06

Plasgon

A Plastic Gasket and Joint Cement



For pipe joints, manhole and handhole plates, boiler joints, leaky flanges on sink traps, valve bonnets, bolts, studs and wherever pressure tight joints are desired.

It assures tight joints on connections for steam, oil, water, gas or ammonia piping. It is applied with a wooden paddle to the joint and it is not necessary to set up tight. It stops leaks in crank case joints, makes tight joints on differential, transmission and timing chain case covers.

Large Collapsible Tube, 6 Oz.....	each	\$6.00
1-quart Can.....	each	2.00
1-gallon Can.....	each	6.00

3-In-One Oil

This 3-In-One Oil is a blend of finest oils, scientifically compounded. For oiling light mechanisms, preventing rust on metal, cleaning and polishing wood.

Has a wide variety of uses for oiling, cleaning and protecting sewing machines, vacuum cleaners, clocks, door locks and hinges, electric motors, window latches, squeaking castors, fans, exercisers, bicycles, roller skates, guns, etc.

Prevents rust on kitchen ranges and nicked bath room fixtures.

8-Ounce Bottle, 1/2-Pint.....	each	\$.50
1-Ounce Bottle.....	each	.10
3-Ounce Handy Oil Can.....	each	.25
1-Ounce Oilright Handy Can.....	each	.10
1-Gallon Can.....	each	5.00

Finol

4-Oz. Can

A highly refined lubricant.

Made especially to meet the demand for a light oil to lubricate delicate fast-running machinery. It will never harden, gum or turn rancid.

Put up in 4-ounce, 8-ounce and one gallon cans.

The 8-ounce can is equipped with spout.

4-Ounce Cans.....	each	\$.25
8-Ounce Cans.....	each	.40
1-Gallon Cans.....	each	2.50

Tasgon

Tasgon is the original rust-solvent. It penetrates instantly into the rustiest or tightest joint or connection, dissolving and breaking down the rust and loosening the parts.

A few drops of Tasgon will loosen the rustiest nut, bolt, coupling, union, bushing or connection of any kind.

Tasgon may also be used to clean rust and grease from nickel parts. It will not injure metal.

1/4-Pint Cans.....	each	\$.40
Pint Cans.....	each	1.00
Quart Cans.....	each	1.50
Gallon Cans.....	each	5.00

Lubri-Tasgon Oil

Lubri-Tasgon is a rich, pure oil, finely divided. Penetrates quickly into unreachable places. Gives lasting lubrication in tight fittings. Prevents rust formation on sheet metal, finished tools, parts, etc. Used by mechanics to loosen rusted connections quickly, to free sticky valves, to break in new motors, to oil generators, etc. Three-ounce can used by autoists and householders.

Blends readily with any oil.

Drums, 55 Gallons.....	per gallon	\$3.20
Drums, 30 Gallons.....	per gallon	3.35
1/2 Drums, 15 Gallons.....	per gallon	3.70
5-Gallon Cans.....	per gallon	4.45
1-Gallon Cans, 6 to a Case.....	per gallon	5.00
Quart Cans, 12 to a Case.....	each	1.50
Pint Cans, 12 to a Case.....	each	1.00
3-Ounce Cans, 24 to a Case.....	each	.30

Key-Tite Waterproof Pipe Joint Compound

Key-Tite Pipe Joint Compound will effectively seal screw thread and gasket joints for such service as gas, water, steam, compressed air, etc.



It is not a quick hardening cement, but a plastic lubricant and filler that will seal the most obstinate joint with ease.

Covers more surface than lead mixtures and is more economical.

1/2-Pint Can.....	each	\$.25
1-Pint Can.....	each	.40
1-Quart Can.....	each	.75
1/2-Gallon Can.....	each	1.35
1-Gallon Can.....	each	2.55
5-Gallon Pail.....	each	10.80
400-Pound Drum.....	per lb.	.16

Handy Dope Kit, 1/2-Pint Can, Screwed Cover, with Brush Attachment.....each \$.30

Key Graphite Paste

For all screw thread and gasket joints. Used in all steam plant and boiler connections, hot oil and hot air lines, internal combustion engines, pumps, oil burning equipment, or any high temperature service. Holds joint leak proof against oils, acids and gases which penetrate ordinary oil mixed compounds. Does work of red and white lead, graphite, oil, shellac, litharge, glycerine, etc. Needs water only for thinning.



	Each	No. in Case	Net Wt. in Lb. per Case
1/4-Lb. Cans.....	\$.25	144	36
5/8-Lb. Handy Kit...	.40	48	30
1-Lb. Cans.....	.75	36	36
3-Lb. Cans.....	1.65	24	72
5-Lb. Cans.....	2.50	12	60
10-Lb. Cans.....	4.50	6	60
30-Lb. Buckets.....	10.50		
60-Lb. Buckets.....	15.00		
400 to 700-Lb. Barrels.....	lb.	\$.12 1/2	

Mica Axle Grease

A high grade petroleum grease to which has been added powdered mica. Mica is a valuable friction-reducing lubricant. The grease acts as a vehicle to carry and hold the mica. The mica forms a silvery coating on all wearing parts.

This grease keeps the axle cool, lessens wear, reduces pull, thereby lightens the load.

Also an excellent preventive of rust on metal parts of agricultural and garden tools. Also used on tramways, chains, cables, and large gears that are exposed to the air, sunlight, and rain. A coating of this grease on joints and seams of chicken houses and brooders insures protection against lice and insects.

Use half as much Mica Axle Grease as other greases.

In 1, 3, 10, 15, and 25-pound cans; also 100-pound drums. Per Pound.....

Standard Cup Grease

High quality grease of correct consistency for grease cups used in connection with lubricating automobile chassis, etc.

Recommended for all chassis grease cups, steering knuckles and wheel bearings.

Superior bearing lubricant for farm and factory machinery.

Packing: 5-pound tins, 6 and 12 to a case; 10-pound tins, 1 and 6 to a case; 25 and 50-pound tins; 1/2-barrels and 100-pound drums.

Prices upon application.

No. 635 Dixon's Minute Flake Graphite



A special minutely subdivided powdered flake graphite adapted for lubricating mechanisms having very close fitting bearing surfaces.

Excels in controlled purity and uniformity.

The 25-pound quantity furnished in buckets, 50-pound quantity in drums, all other sizes in cans.

Size Container.....	lbs.	1	5	10	25	50
No. 635.....	per pound	\$.75	.65	.65	.60	.60
No. per Carton.....		36	10	5	...	...

In larger containers, prices upon application.

Dixon's Microfyne Flake Graphite



Processed to microscopic subdivision in particle size. Used in powder form, through Dixon's Graph-Air-Gun, or in same manner in which other Dixon finely powdered graphites are used.

Offers oilless, greaseless, combustion-proof, temperature-proof, water-proof lubrication in home, car, work and play, including locks, automobile cylinders, etc. Also used as a co-lubricant. Oil or grease reinforced with Microfyne graphite often gives more than double the service obtainable from oil or grease alone.

Furnished also in larger containers.

Container	Per Lb.	Container	Per Lb.
*#8 Chute Can....	each \$.50	10-Lb. Can, 5 in Carton	\$.60
*1-Lb. Can.....	.75	25-Lb. Drum.....	.45
5-Lb. Can, 10 in Carton	.65	50-Lb. Drum.....	.40

*Packed 12 in carton, 3 cartons to a case

Dixon's Graph-Air-Guns



The new clean way of applying Dixon's new Microfyne Flake (powdered) Graphite. It is rubber, when squeezed deposits graphite without waste, just where it is needed. A revolving nozzle controls graphite output and complete leakless shut-off. Equipped with a chamois-faced burnisher.

The Microfyne Graphite offers oilless, greaseless, combustion-proof, temperature-proof, water-proof lubrication in home, car, work and play, including all locks, automobile cylinders, etc.

Gun also handles No. 635 and Ticonderoga Flake Graphite No. 2.

Packed 1 dozen to carton, 3 cartons to case.
Graph-Air-Gun Filled with Microfyne Graphite... each \$.75
Extra 8-Inch Nozzle to Reach Out-of-the-Way Places... each .15

Dixon's Junior Graph-Air Guns



Filled with Dixon's Microfyne Flake Lubricating Graphite—the oilless, greaseless, dry powdered lubricant.

Eliminates squeaks, rattles, or sticking. Indispensable to the locksmith, automobile and all servicing attendants. Increases power and pick up when used in auto upper-cylinders.

To apply squeeze the vial. Turn nozzle to open or shut.
Overall length, 6½ inches; diameter, 1 inch.

One on a display card; 1 dozen in a cardboard box, 3 or 12 cardboard boxes in a shipping carton.

Each..... \$.30

Dixon's Ticonderoga Flake Lubricating Graphite



Furnished in particle size No. 1 in large, unctuous, lustrous flakes, or in particle size No. 2 in finely, subdivided, powdered flakes.

Specify No. 1 or 2 when ordering.

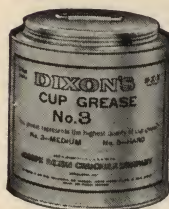
Used by power plant engineers and others for lubrication and coating gaskets, packing, etc., and for miscellaneous uses.

The 25 and 50-pound quantities furnished in drums, all other sizes in cans.

No.....	632	633	634	644	645
Per Pound.....	\$.45	.40	.37½	.35	.33
Size Container.....	lbs.	1	5	10	25
No. Per Case.....		36	10	5	...

In larger containers, prices upon application.

Dixon's Cup and Pressure Gun Graphited Greases



Water insoluble. Retains original consistency over a wide temperature range.

Does not need to be replaced as frequently as plain greases, and is therefore more economical.

Available in 6 consistencies; Nos. 0, 1, 2, 3, 4 and 5. Specify consistency.

Nos. 3 and 5 are for general use. No. 0 is about consistency of heavy oil; No. 5 about consistency of soft tallow.

The 25 and 50-pound quantities furnished in buckets, all other sizes in cans.

Size Container.....	lbs.	1	5	10	25	50
Per Pound.....		\$.50	.45	.43	.42	.36
No. per Case.....		36	10	6	...	...

In larger containers, prices upon application.

Boyer Neatsfoot Oil

100 Per Cent Pure



Nothing is the equal of pure neatsfoot oil for leather upholstery, belts, shoes, harness, leather lined auto clutches, etc.

It puts new life into them, making the leather soft and pliable.

Size Can.....	½ Pt.	1 Pt.	1 Qt.
Per Can.....	\$.45	.75	1.25

Size Can.....	1 Gal.	5 Gal.
Per Can.....	\$3.75	3.50*

*Per gallon.

Tilette Plastic Cement



A pure white plastic cement for use in resetting loose tiles; also for setting porcelain bathroom and kitchen fixtures to tiled walls without the use of screws.

Size Can.....	pounds	½	1	2	4
Per Dozen.....		\$3.00	4.20	6.00	9.00
Weight per Dozen.....	pounds	7¾	14	27½	52

Also packed in 16-pound cans and 50 and 100-pound drums.

Tileko Waterproof Cement



A pure white cement ready for use for filling in crevices between built-in bathtubs and tiled walls. An excellent seam and crack filler around all plumbing fixtures.

Size Can.....	pounds	1/2	1	2	4
Per Dozen.....		\$4.20	6.00	9.00	13.20
Weight per Dozen.....	pounds	7 3/4	14	27 1/2	52

Tilette Liquid Porcelain Glaze



Repairs unsightly chips in porcelain and enamel sinks, bathtubs, lavatories, refrigerators, drainboards, tabletops, etc. Not recommended for repairs on stoves around ovens or gas plates.

It is easy to apply and dries quickly with a permanent gloss.

Colored fixtures can be matched by adding colors ground in oil.

1-Ounce Jar, for Household Use.....each \$.25

4-Ounce Can, for Professional Use.....each .75

Smooth-On Iron Cements



No. 1 is a quick-hardening iron cement used by mixing with water. For repairing breaks in castings, making tight joints and seams, and stopping leaks in boilers, pipe lines, pressure containers, etc. Becomes hard as iron when metalized, and expands at the same rate. May be used on iron, brass, steel, copper, lead, aluminum, etc., either alone or as a filling compound under a plate, and will withstand fire, water, steam, oil, and high pressures. In powder form.

No. 2 is a slow-hardening hydraulic iron cement for the same uses as No. 1. In powder form.

No. 3 is for making screw-thread joints, coating gaskets, and sealing rivets, seams and joints in boilers, etc. Lubricates in assembling screw threads. In paste form.

No. 4 is for filling surface defects in castings; No 4AA is light gray with high-metallic lustre, No. 4A medium gray with medium lustre, and No. 4B dark gray. Powder form.

No. 5 is used by mixing with water. For caulking bell-and-spigot joints in cast iron soil, water, or gas pipes. Requires no heat. In powder form.

No. 6 is a dark gray plastic iron putty, sold ready for use for making water-tight joints on sky and vault lights, for filling in seams, rivet heads and for setting glass in metal frames, etc.

No. 7 is a hydraulic iron cement for waterproofing porous cellar walls from the inside, on wet or dry surfaces, and making hard dustproof and oilproof concrete floors. Especially useful for floors in garages, where oil is usually spilled and heavy tools allowed to drop. In powder form.

Available in 1 and 5-pound tins and 25 and 100-pound kegs, with the exception of No. 3 and No. 6, which are not packed in 100-pound kegs.

No.....	*1	2	3	4AA	4A	4B	5	6	7
Per Pound.	\$.50	.50	.50	.50	.40	.30	.30	.40	.25

*In 7-ounce tin at 30 cents and 1 3/4-ounce tin at 10 cents.

Drano



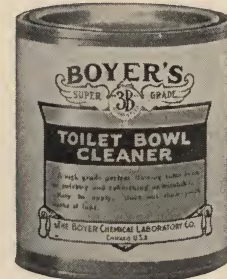
Drano destroys grease, animal and vegetable refuse wherever found, and leaves drains clean and sanitary.

Use it as it comes from the can. It works in cold water and need not be dissolved. It will not harden in the drains nor harm enamel or plumbing materials.

It works in the bottom of drain, at the seat of the trouble, in the trap or beyond under floor or underground.

Size Containers.....	lb.	1	2	25
Per Can.....		\$.35	.60	.....
Per Lb.....		.....	.....	18 1/2
No. to Case.....		12	12	1
Ship. Wt.....	lb.	15	29	27

Boyer's Toilet Bowl Cleaner



For cleaning toilet bowls and flush traps. Removes dirt and discoloration.

1 1/2-Pound Cans (24 in a Case).....	each	\$.25
3 -Pound Cans (12 in a Case).....	each	.45

Blue Seal Boiler Cleaner



Blue Seal Instant Boiler Cleaner contains ingredients that in themselves without a boiling process, will generate enough heat to dissolve and liquefy any substance that may be caused through water conditions.

It will leave the inner walls of a boiler, pipes or radiators as clear of foreign matter as when new.

Packed 6 cans to carton.

Size Cans.....	pounds	2
Each.....		\$1.25

Burnishine Liquid Metal Polish



Cleans and polishes nickel, gold, silver, copper, brass, zinc, tin, and all metals. Restores burnt or rusty nickel to its original finish. Guaranteed not to scratch or mar the surface.

No.	Size of Can	Case Contains Dozens	Weight per Case Lbs.	Price Each
2	1/4 Pt.	3 & 6	30	\$.15
3	1/2 Pt.	3 & 6	60	.25
4	1 Pt.	2 & 4	65	.45
5	1 Qt.	1 & 2	65	.75
6	1/2 Gal.	1	65	1.25
7	1 Gal.	1/2	65	2.00



Flash House and Hand Cleaner

Quickly, safely and thoroughly removes dirt, grime and stains of all kinds.

Size Can.....	1-Lb.	2-Lb.	1-Gal.
Each.....	\$.10	.20	.75
No. to case.....	24	12	4

Le Page's Glue



The quality of Le Page's Liquid Glue is well known. It is always ready for use for all kinds of mending and patching such articles as wood, leather, cloth, etc.

One of the important features of this adhesive material is the can in which it is packed. This is equipped with a patent top, outside friction, easily opened with a screwdriver and when properly put on is perfectly air tight.

No.....	30	31	32	33	35	36
Size Can...	1-Gill	1/2-Pt.	1-Pt.	1-Qt.	1-Gal.	5-Gal.
Each.....	\$.30	.50	.85	1.50	4.50	*4.20

*Price per gallon.

No. 25, Bottles.....	each	\$.20
No. 27, Tubes.....	each	.20

Rogers Liquid Glue

Rogers Liquid Glue is especially made for the household, carpenter and mechanic, for cementing wood, leather, glass crockery, cue tips, etc., and for all work requiring an adhesive of tremendous strength. It is semi-waterproof and for cementing bicycle tires to rim, canvas linings in auto tires, leather belting and for all wood work it has no equal.



Size Container	Per Dozen	No. Doz. in Case	Wt. Lbs. Per Case
1-Ounce Bottle.....	\$1.20	12	32
1-Ounce Tube.....	1.20	12	15
Half Gills.....	2.40	6	18
Gills.....	3.60	6	30
Half Pints.....	6.00	2	20
Pints.....	10.20	1	18
Quarts.....	18.00	1	35
Gallons.....	54.00	1 1/2	65
5-Gallon Can.....	*4.20	1	60

*Per gallon.

Glue

We can furnish complete line of animal glues in flake, ground, noodle and sheet forms for sizing, woodworking, paper boxes, emery wheels and all classes of manufacturing.

We are prepared to serve the interests of our customers and for every manufacturing purpose to offer glues that fit the requirements.

Prices upon application.

Grade A Casco Glue

A dry powder mixed in cold water to make super-strong, quick-setting, liquid glue which becomes water-resistant when set in the joint. Glues all woods, hard and soft; metal to wood; cloth; cardboard; etc. Cements linoleum. Used for all difficult gluing jobs. For householders, homecrafters, schools, cabinet-makers, contractors, etc.

One pound of Casco makes 1 1/2 to 2 quarts of liquid glue.

1 1/2-Ounce Can.....	each	\$.10
1/4-Pound Can.....	each	.25
1/2-Pound Can.....	each	.40
1-Pound Can.....	each	.65
5-Pound Can.....	each	2.75
10-Pound Can.....	each	5.00

Can also be supplied in 25, 50, 100 and 300-pound containers.

Glue Pots



No.	Plain	Tinned or Porcelain Enamelled	Cap. Pts.	No.	Plain	Tinned or Porcelain Enamelled	Cap. Pts.
000	\$4.25	\$5.00	1 1/2	3	\$9.50	\$10.26	2 1/2
00	4.75	5.50	3/4	4	11.50	12.42	3
0	5.25	6.00	1	5	13.50	14.58	4
1	6.00	6.75	1 1/2	6	15.00	16.94	4 1/2
2	7.50	8.40	2				

Black & Decker Electric Glue Pots



Heating element is of nichrome ribbon with mica plates. Thermostatic control maintains glue at 150° F. Tightly sealed with asbestos to eliminate fire hazard; liquid cannot get at heating element to cause a short circuit.

Cast aluminum container fits gray iron water receptacle. Capacity, 2 quarts of glue.

Supplied for 110 or 220 volts a.c. only. In ordering state whether for 110 or 220 volts.

(Code No. 89).ea. \$19.50

Bobbett Electric Glue Pots



Has high and low switch; also on and off switch.

Has a non-corrosive blue porcelain enameled glue container.

Outer black enameled jacket requires no water.

		110 Volts		220 Volts		Ship. Wt.		Diam. In.		GLUE CONTAINER		Extra Each	
Cap. Qt.	No.	No.	Each	Watts	Lb.	In.	Depth In.	2 Heat Control	3 Heat Control	Depth In.	2 Heat Control	3 Heat Control	3 Heat Control
1	1901	1921	\$6.50	100	5	4	4			4		\$1.00	
2	1902	1922	9.00	220	7	5 1/2	4 1/2			4 1/2		1.50	
4	1904	1924	15.00	330	15	7 1/4	6			6		3.00	
8	1908	1928	33.00	660	35	8 1/2	8			8		5.00	
20	1920	1940	50.00	1100	45	12	12			12		7.50	

No. 2 Casco White Glue

A white glue for veneers, joints, inlays, etc., which must be glued with minimum stain.

For furniture makers, cabinet makers, manual training schools, etc.

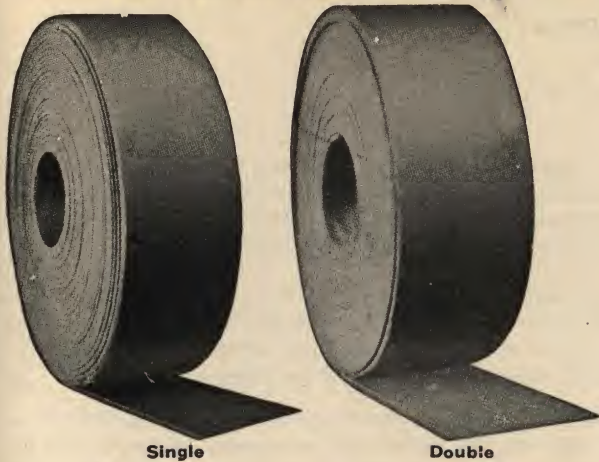
Dry powder; cold water mix. One pound of Casco makes 1 1/2 to 2 quarts of liquid glue.

Can also be supplied in 100 and 300-pound containers.

1 1/2-Oz. Box.....	each	\$.10
8-Oz. Can.....	each	.40
1-Lb. Can.....	each	.65
5-Lb. Can.....	per pound	.55
10-Lb. Can.....	per pound	.50
25-Lb. Can.....	per pound	.45
50-Lb. Can.....	per pound	.40



Oak Tanned Leather Belting



Width In.	PRICE, PER FT. Single	Double	Width In.	PRICE, PER FT. Single	Double	Width In.	PRICE, PER FT. Single	Double
1/2	\$.12	\$.24	6	\$ 1.44	\$ 2.88	34	\$ 8.16	\$ 16.32
3/4	.18	.36	7	1.68	3.36	36	8.64	17.28
1	.24	.48	8	1.92	3.84	38	9.12	18.24
1 1/4	.30	.60	9	2.16	4.32	40	9.60	19.20
1 1/2	.36	.72	10	2.40	4.80	42	10.08	20.16
1 3/4	.42	.84	12	2.88	5.76	44	10.56	21.12
2	.48	.96	14	3.36	6.72	46	11.04	22.08
2 1/4	.54	1.08	16	3.84	7.68	48	11.52	23.04
2 1/2	.60	1.20	18	4.32	8.64	50	12.00	24.00
2 3/4	.66	1.32	20	4.80	9.60	52	12.48	24.96
3	.72	1.44	22	5.28	10.56	54	12.96	25.92
3 1/2	.84	1.68	24	5.76	11.52	56	13.44	26.88
4	.96	1.92	26	6.24	12.48	60	14.40	28.80
4 1/2	1.08	2.16	28	6.72	13.44	64	15.36	30.72
5	1.20	2.40	30	7.20	14.40	68	16.32	32.64
5 1/2	1.32	2.64	32	7.68	15.36	72	17.28	34.56

Thickness of Leather Belting

The American Leather Belting Association has decided that for the greater protection of the consumers of leather belting, it should establish and sell this commodity by specifications of thickness instead of weight thereby discarding the old weight terminology of "ounces per square foot" which may be varied by the mere addition of weighting materials to the leather, and does not necessarily always represent a differential in transmission values.

The thicknesses specification for flat leather belting referred to above and adopted by the Association on Jan. 1, 1935, is as follows:

Medium Single.....	11/64	Inch Average
Heavy Single.....	13/64	Inch Average
Light Double.....	18/64	Inch Average
Medium Double.....	20/64	Inch Average
Heavy Double.....	23/64	Inch Average

Allowable tolerances for all thicknesses plus or minus 1/64-inch from above averages.

All thicknesses in this table are average thickness in inches, and should be determined by measuring 20 coils and dividing this total by the number of coils measured. In rolls of belting containing less than 20 coils, the average thickness should be determined by measuring all the coils in the roll.

Uniformity: No point in single belting shall be more than 3/64 inch thicker or more than 3/64 inch thinner than the average thickness. With doubles, the tolerance shall be 3/64 inch thicker or thinner than the average.

U.S. Rainbow
Transmission Belting
Friction Surface

The basis of U.S. Rainbow construction is strong, specially woven duck, properly stretched and thoroughly impregnated under tension with a high quality rubber friction compound.

For main drives, for heavy duty, for varying loads and for high speed, U.S. Rainbow stands alone with a tested record for stamina.

Identified by the Rainbow brand, the red surface and the U.S. trademark.

Sold from regular rubber belting lists.

U. S. Shawmut Agricultural Roll Belting



Shawmut Belting, with red friction surface, is a moderately priced belt built for hard service. A belt for any farm or cotton gin transmission service where endless belts are not practical.

The duck is first quality, heavy and well woven, and the rubber friction gives an enduring bond between plies. Vulcanization welds all parts of the belt together into one compact body ensuring a truly serviceable belt.

Sold from regular transmission belt list.

Standard Rubber Belt List


Price, per Foot—Effective July 10, 1925

Size, In.	2-ply	3-ply	4-ply	5-ply	6-ply	7-ply	8-ply
1	\$.18	\$.20	\$.24	....	....	....	....
1 1/4	.23	.26	.30	....	....	....	....
1 1/2	.27	.31	.36	\$.45	....	....	....
1 3/4	.32	.36	.42	.53	....	....	....
2	.34	.39	.46	.58	\$.69	\$.81	\$.92
2 1/2	.42	.48	.56	.70	.84	.98	1.12
3	.48	.55	.65	.81	.98	1.14	1.31
3 1/2	.57	.65	.76	.95	1.14	1.33	1.52
4	.61	.70	.82	1.03	1.23	1.44	1.65
4 1/2	.68	.78	.92	1.16	1.38	1.61	1.84
5	.76	.87	1.02	1.28	1.53	1.79	2.05
6	.91	1.04	1.22	1.53	1.83	2.14	2.44
7	1.07	1.22	1.43	1.79	2.15	2.50	2.86
8	1.15	1.31	1.54	1.93	2.31	2.70	3.08
9	1.29	1.47	1.73	2.16	2.60	3.03	3.46
10	1.43	1.63	1.92	2.40	2.88	3.36	3.84
11	1.57	1.79	2.11	2.64	3.17	3.69	4.22
12	1.72	1.96	2.30	2.88	3.45	4.03	4.60
13	1.86	2.13	2.50	3.13	3.75	4.38	5.00
14	2.00	2.29	2.69	3.36	4.04	4.71	5.38
15	2.14	2.45	2.88	3.60	4.32	5.04	5.76
16	2.29	2.62	3.08	3.86	4.62	5.40	6.16
18	2.57	2.94	3.46	4.32	5.20	6.06	6.92
20	2.85	3.26	3.84	4.80	5.76	6.72	7.68
22	3.14	3.59	4.22	5.28	6.34	7.38	8.44
24	3.42	3.91	4.60	5.76	6.90	8.06	9.20
26	3.71	4.26	5.01	6.26	7.50	8.76	10.00
28	4.00	4.57	5.38	6.72	8.08	9.42	10.76
30	4.29	4.90	5.76	7.20	8.64	10.08	11.52
32	4.59	5.25	6.18	7.72	9.24	10.80	12.32
34	4.87	5.56	6.54	8.18	9.82	11.46	13.08
36	5.14	5.87	6.91	8.64	10.40	12.12	13.84
38	5.43	6.21	7.31	9.14	10.96	12.78	14.60
40	5.72	6.54	7.69	9.61	11.52	13.44	15.36
42	6.00	6.86	8.07	10.09	12.10	14.10	16.12
44	6.28	7.18	8.45	10.56	12.68	14.76	16.88

Prices on heavier plies upon application.

Diamond Griptite V Belts

For Multiple Drives



Low stretch cords — floating in rubber carry load, take shock.

Flexible cover takes wear, seals carcass.

"Cool Rubber" shock absorber. No excess heat-producing fabric here.

Matched sets—belts of same length measured while actually running under full load.

V-belt drives are smooth-running, silent, compact. Short center drives are efficient. Slip is minimized. Bearings are protected because V-belts operate efficiently under slight tension. Shock, which would damage a belt under high tension, is absorbed. They are clean—no belt dressing is required.

Griptite Belts are accurately measured while running on pulleys under normal operating conditions of load and speed. Length is stamped on each belt to permit close matching in sets. Each belt in these closely matched sets carries its full share of the load, wears evenly. Sets last far longer.

A new type rubber compound completely surrounds each cord, produces no excess heat. These belts run 75% cooler. All unnecessary fabric has been replaced by rubber to cushion shock and greatly increase flexing life. This extra rubber permits V-Belts to roll with the punch under shock loads.

A Belts— $\frac{1}{2} \times \frac{11}{32}$ Inches

SERIAL NUMBER OF BELTS OF OTHER MANUFACTURE

GRIPTITE V BELTS				SERIAL NUMBER OF BELTS OF OTHER MANUFACTURE								Goodyear Browning Dodge
Griptite V Serial No.	Each	Pitch Length Inches	Approx. Weight Pounds	ALLIS-CHALMERS TEXROPE No.		Dayton No.	Goodrich No.	Gates No.	Gilmer No.	Worthington No.	Manhattan No.	
A 26	\$1.30	26.9	.2	A26	10A	2A8	A26	26A	2A6	0270	A26	
A 31	1.40	31.9	.2	A31	10B	3A3	A31	31A	3A1	0320	A31	
A 35	1.50	35.9	.2	A35	10	3A7	A35	35A	3A5	0360	A35	
A 38	1.60	38.9	.2	A38	20B	4A0	A38	38A	3A8	0390	A38	
A 42	1.70	42.9	.2	A42	20	4A4	A42	42A	4A2	0430	A42	
A 46	1.80	46.9	.3	A46	30A	4A9	A46	46A	4A6	0470	A46	
A 51	1.90	51.9	.3	A51	30	5A4	A51	51A	5A1	0520	A51	
A 60	2.10	60.9	.3	A60	40	6A3	A60	60A	6A0	0610	A60	
A 68	2.30	68.9	.4	A68	40B	7A1	A68	68A	6A8	0690	A68	
A 75	2.50	75.9	.4	A75	50	7A8	A75	75A	7A5	0760	A75	
A 80	2.70	81.1	.4	A80	50A	8A3	A80	80A	8A0	0810	A80	
A 85	2.90	86.1	.4	A85	50B	8A8	A85	85A	8A5	0860	A85	
A 90	3.10	91.1	.4	A90	60	9A3	A90	90A	9A0	0910	A90	
A 96	3.30	97.1	.5	A96	60A	9A9	A96	96A	9A6	0970	A96	
A105	3.60	106.1	.5	A105	70	1A08	A105	105A	1A05	01060	A105	
A112	4.00	113.1	.5	A112	70A	1A15	A112	112A	1A12	01130	A112	
A120	4.30	121.1	.5	A120	80	1A23	A120	120A	1A20	01210	A120	
A128	4.60	129.1	.6	A128	80A	1A31	A128	128A	1A28	01290	A128	

B Belts— $\frac{21}{32} \times \frac{7}{16}$ Inches

B 35	\$2.00	36.1	.4	B35	11	3B7	B35	35B	3B5	1364	B35
B 38	2.20	39.1	.4	B38	11A	4B0	B38	38B	3B8	1394	B38
B 42	2.40	43.1	.4	B42	21	4B4	B42	42B	4B2	1434	B42
B 46	2.60	47.1	.5	B46	21A	4B9	B46	46B	4B6	1474	B46
B 51	2.80	52.1	.5	B51	31	5B4	B51	51B	5B1	1524	B51
B 55	2.90	56.4	.6	B55	31A	5B9	B55	55B	5B5	1564	B55
B 60	3.00	61.0	.6	B60	41	6B3	B60	60B	6B0	1614	B60
B 65	3.20	66.0	.7	B65	...	6B5	B65	65B	6B5	...	B65
B 68	3.30	69.3	.7	B68	41A	7B1	B68	68B	6B8	1694	B68
B 75	3.60	76.3	.7	B75	51	7B8	B75	75B	7B5	1764	B75
B 81	3.90	82.3	.8	B81	51C	8B4	B81	81B	8B1	1824	B81
B 85	4.10	86.5	.8	B85	51A	8B8	B85	85B	8B5	1864	B85
B 90	4.30	91.5	.9	B90	61	9B3	B90	90B	9B0	1914	B90
B 93	4.50	94.5	.9	B93	...	9B6	B93	93B	9B3	...	B93
B 97	4.70	99.0	.9	B97	61A	9B9	B97	97B	5478	1989	B97
B100	4.80	101.5	1.0	B100	B100	...	B100	100B	1B00	...	B100
B103	4.90	104.0	1.0	B103	B103	...	B103	103B	1B03	...	B103
B105	5.00	106.5	1.0	B105	71	1B08	B105	105B	1B05	11064	B105
B112	5.40	114.0	1.1	B112	71A	1B15	B112	112B	5485	11139	B112
B120	5.70	121.5	1.2	B120	81	1B23	B120	120B	1B20	11214	B120
B128	6.10	129.5	1.3	B128	81A	1B31	B128	128B	1B28	11294	B128
B133	6.40	134.5	1.3	B133	...	1B33	B133	133B	1B33	...	B133

Continued

Diamond Griptite V Belts

For Multiple Drives

Concluded

B Belts— $2\frac{1}{32} \times 7\frac{1}{16}$ Inches—Continued

GRIPTITE V BELTS				SERIAL NUMBER OF BELTS OF OTHER MANUFACTURE							
Griptite Serial No.	Each	Pitch Length Inches	Approx. Weight Pounds	ALLIS-CHALMERS TEXROPE No.		Dayton No.	Goodrich No.	Gates No.	Gilmer No.	Worthington No.	Goodyear Browning Dodge Manhattan No.
				Present	Former						
B144	\$6.90	145.5	1.4	B144	91	1B47	B144	144B	1B44	11454	B144
B158	7.50	159.5	1.5	B158	91A	1B61	B158	158B	1B58	11594	B158
B173	8.20	174.5	1.6	B173	91B	1B76	B173	173B	1B73	11744	B173
B180	8.60	181.6	1.7	B180	101	1B84	B180	180B	1B80	11814	B180
B195	9.30	196.3	1.9	B195	101B	1B99	B195	195B	1B95	11964	B195
B210	10.00	211.3	2.0	B210	101A	2B14	B210	210B	2B08	12114	B210
B240	11.30	240.0	2.3	B240	111	2B44	B240	240B	2B38	12400	B240
B270	12.80	270.0	2.6	B270	111A	2B74	B270	270B	2B68	12700	B270
B300	14.20	300.0	2.9	B300	121	3B04	B300	300B	2B98	13000	B300

C Belts— $7\frac{1}{8} \times 17\frac{1}{32}$ Inches

C 51	\$4.60	52.6	.9	C51	32	5C4	C51	51C	5C1	2530	C51
C 60	5.40	61.4	1.1	C60	42	6C3	C60	60C	6C0	2620	C60
C 68	6.10	69.4	1.2	C68	42A	7C1	C68	68C	7C1	2700	C68
C 75	6.70	76.6	1.3	C75	52	7C8	C75	75C	7C5	2770	C75
C 81	7.30	82.6	1.4	C81	52A	8C4	C81	81C	8C1	2830	C81
C 85	7.50	86.2	1.5	C85	52B	8C8	C85	85C	8C5	2860	C85
C 90	8.10	91.9	1.6	C90	62	9C3	C90	90C	9C0	2920	C90
C 96	8.60	97.9	1.7	C96	62A	9C9	C96	96C	9C6	2980	C96
C105	9.40	106.9	1.9	C105	72	1C08	C105	105C	1C05	21070	C105
C112	10.00	113.9	2.0	C112	72A	1C15	C112	112C	1C12	21140	C112
C120	10.70	122.0	2.1	C120	82	1C23	C120	120C	1C20	21220	C120
C128	11.40	130.0	2.3	C128	82A	1C31	C128	128C	1C28	21300	C128
C144	12.80	146.0	2.5	C144	92	1C47	C144	144C	1C44	21460	C144
C158	14.00	160.0	2.7	C158	92C	1C61	C158	158C	1C58	21600	C158
C162	14.30	164.0	2.7	C162	92A	1C65	C162	162C	1C62	21640	C162
C173	15.30	175.0	3.0	C173	92B	1C76	C173	173C	1C73	21750	C173
C180	16.00	182.0	3.2	C180	102	1C84	C180	180C	1C80	21820	C180
C195	17.30	197.0	3.4	C195	102B	1C99	C195	195C	1C95	21970	C195
C210	18.70	212.0	3.7	C210	102A	2C14	C210	210C	2C08	22130	C210
C240	21.00	240.0	4.2	C240	112	2C44	C240	240C	2C38	22400	C240
C270	23.70	270.0	4.7	C270	112A	2C74	C270	270C	2C68	22700	C270
C300	26.30	300.0	5.2	C300	122	3C04	C300	300C	2C98	23000	C300
C330	28.90	330.0	5.7	C330	122B	3C34	C330	330C	3C28	23300	C330
C360	31.50	360.0	6.2	C360	132	3C64	C360	360C	3C58	23600	C360
C390	34.15	390.0	7.4	C390	...	3C94	C390	390C	3C88	23900	C390
C420	36.80	420.0	8.0	C420	...	4C24	C420	420C	4C18	24200	C420

D Belts— $1\frac{1}{4} \times 3\frac{3}{4}$ Inches

D120	\$19.80	122.4	4.5	D120	83	1D23	D120	120D	1D20	31224	D120
D128	21.10	130.4	4.8	D128	83A	1D31	D128	128D	1D28	31304	D128
D144	23.70	146.4	5.4	D144	93	1D47	D144	144D	1D44	31464	D144
D158	26.00	160.4	6.0	D158	93B	1D61	D158	158D	1D58	31604	D158
D162	26.80	164.4	6.1	D162	93A	1D65	D162	162D	1D62	31644	D162
D173	28.40	175.4	6.5	D173	93C	1D76	D173	173D	1D73	31754	D173
D180	29.50	182.6	6.8	D180	103	1D84	D180	180D	1D80	31824	D180
D195	32.00	197.6	7.3	D195	103B	1D99	D195	195D	1D95	31976	D195
D210	34.50	213.1	7.9	D210	103A	2D14	D210	210D	2D08	32131	D210
D240	38.80	240.0	9.0	D240	113	2D44	D240	240D	2D38	32400	D240
D270	43.70	270.0	10.1	D270	113A	2D74	D270	270D	2D68	32700	D270
D300	48.50	300.0	11.2	D300	123	3D04	D300	300D	2D98	33000	D300
D330	53.40	330.0	12.4	D330	123B	3D34	D330	330D	3D28	33300	D330
D360	58.20	360.0	13.5	D360	133	3D64	D360	360D	3D58	33600	D360
D420	68.20	420.0	15.8	D420	...	4D14	D420	420D	4D18	34200	D420
D480	78.20	480.0	18.1	D480	...	4D74	D480	480D	4D78	34800	D480
D540	88.20	540.0	20.2	D540	...	5D34	D540	540D	5D38	35400	D540
D600	98.20	600.0	22.5	D600	...	5D94	D600	600D	5D98	36000	D600
D660	106.70	660.0	22.6	D660	...	6D54	D660	660D	6D58	36600	D660

E Belts— $1\frac{1}{2} \times 1$ Inches

E180	\$42.50	183.3	10.2	E180	104	1E84	E180	180E	1E80	41831	E180
E195	46.00	198.5	11.2	E195	104B	1E99	E195	195E	1E95	41985	E195
E210	49.60	213.6	12.0	E210	104A	2E14	E210	210E	2E08	42136	E210
E240	55.70	240.0	13.5	E240	114	2E44	E240	240E	2E38	42400	E240
E270	62.60	270.0	15.3	E270	114A	2E74	E270	270E	2E68	42700	E270
E300	69.60	300.0	17.0	E300	124	3E04	E300	300E	2E98	43000	E300
E330	76.60	330.0	18.8	E330	124B	3E34	E330	330E	3E28	43300	E330
E360	83.50	360.0	20.4	E360	134	3E64	E360	360E	3E58	43600	E360
E420	98.50	420.0	23.8	E420	...	4E14	E420	420E	4E18	44200	E420
E480	113.50	480.0	27.2	E480	...	4E74	E480	480E	4E78	44800	E480
E540	128.50	540.0	30.7	E540	...	5E34	E540	540E	5E38	45400	E540
E600	143.50	600.0	34.1	E600	...	5E94	E600	600E	5E98	46000	E600
E660	158.50	660.0	37.6	E660	...	6E54	E660	660E	6E58	46600	E660

Clipper Belt Cutters

Open End Models

For cutting belting from roll or square belt ends, preparatory to lacing them. Strong and sturdily built.



Extra
Blades, Ea.
6-In. Open End Cutter, each \$15.00 \$1.50
10-In. Open End Cutter, each 20.00 2.75

No. 3 Clipper Belt Lacers

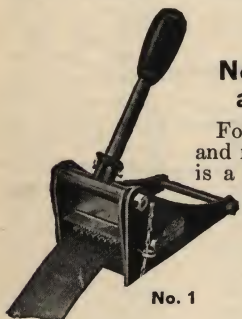
For lacing one end of any belt not exceeding 6 inches wide and $\frac{3}{8}$ inch thick in one operation.

No. 3 Lacer, each \$25.00
No. 3, Incl. 1 Box Each, Nos. 3, 4,
and 5 Clipper Hooks, each \$28.25

No. 1 Clipper Lever Lacers
and No. 101 Vise Lacers

For belts not more than 2 inches wide and not exceeding $\frac{3}{8}$ inch thick. No. 1 is a portable lever-operated lacer; No. 101 is used in a vise. Both lacers accommodate only No. 1 hooks.

No. 1 hooks are carded in 6-inch lengths, 20 cards per box, sufficient for lacing 34 2-in. or 77 1-in. belts complete.



No. 1

No. 1 Lacer, each \$10.00
No. 101 Lacer, 2-Inch Vise Model, each 2.50
No. 1 Clipper Belt Hooks, per box .85

No. 0 Clipper Vise Lacers

Has a special pressure plate as indicated by arrow, which makes it possible to embed the hooks flush with the surface of the belt; also to clinch the points. The 4-inch model laces one end of belts up to 4 inches wide and not exceeding $\frac{3}{8}$ inch thick in one operation. The 6-inch model laces



one end up to 6 inches wide and not exceeding $\frac{3}{8}$ inch thick in one operation.

No. 0, 4-Inch Model, each \$3.00
No. 0, 6-Inch Model, each 3.50

No. 6 Clipper Speed Lacers

Will lace one end of belt 6 inches wide and not exceeding $\frac{3}{8}$ inch thick in one operation. For wider belts repeat operation. A three-quarter turn of the double end crank will embed the hooks flush with the surface of any belt and clinch the points. The clinch keeps the hooks from working up and becoming worn or fatigued by pounding on the pulleys which often causes breakage.



No. 6, Stand Included, each \$75.00
Special Hook Retainer to Accommodate No. 1 Hooks
..... each 2.00

No. 8 Clipper Speed Lacers

Laces one end of any belt 8 inches wide in one operation. For wider belts repeat operation. Suitable for all belts up to $\frac{3}{8}$ inch thick.

No. 8, Stand Included, each \$115.00
Special Hook Retainer to Accommodate No. 1
Hooks, each 2.50

Clipper Belt Hooks

Clipper Belt Hooks make a smooth joint, flexible as the belt itself. These hooks are made of a highly specialized wire exclusively for Clipper. The wire combines great tensile strength and wearing qualities. Suitable for all belts not over $\frac{3}{8}$ inch thick. Hooks shown are for use in Nos. 0, 3, 6 and 8 lacers. No. 1 hooks used in Nos. 1 and 101 lacers; can also be used in Nos. 6 and 8 lacers with aid of special hook retainers.



Actual Sizes of Hooks



Double-Staggered Grip

Actual photograph showing the even distribution of hook point strain on the belt which is obtained by the double staggered position of the Clipper Hook points.

Clipper Joints

The joint is flexible both ways; nothing prevents belt from conforming to a crown pulley.

Clipper Belt Hooks
With Reinforcing Strip

No exposed hook points for complete safety in handling. The reinforcing strip assures greater convenience and economy. The cards can be cut with a knife, without waste, to suit the width required for any belt. Each card holds 84 hooks, excepting No. 1 size which holds 50 hooks.

Packed in boxes containing 12 cards (one size) and lubrihide pins—sufficient for lacing both ends of belt, total width 80 in. Boxes of No. 1 hooks contain 20 cards, 6 in. long.

Selection of size is determined by the thickness of the belt.

No.	For	Regular per Box	Monel Rust- Proof per Box
1	Use in Nos. 1 and 101 Lacers,	\$1.85	\$1.85
2	Thin Belts Over Small Sized Pulley, .....	.95	1.95
3	Thin Belts Over Medium Sized Pulley, ..	1.00	2.00
4	Belts Not Over $\frac{1}{4}$ Inch Thick,	1.00	2.00
4½	Heavy Duty Belts $\frac{1}{4}$ Inch Thick,	1.15	2.40
5	Belts Not Over $\frac{3}{8}$ Inch Thick,	1.25	2.50
6	Belts Not Over $\frac{3}{8}$ Inch Thick,	1.50	2.75

Clipper Connecting Pins

Clipper
LUBRIHIDE PINS

In packages. Standard package contains 24 pins, 12 inches long.

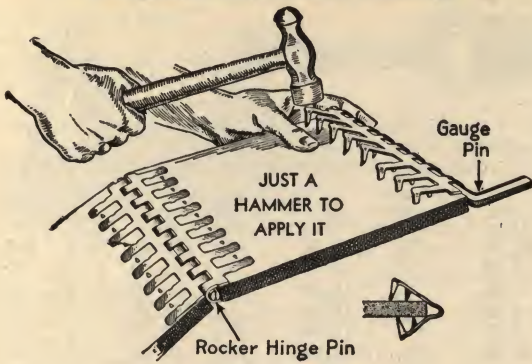
Lubrihide. The only pins with built-in lubrication. They last 2 to 4 times longer. Order Lubrihide for economical belt operation.

Rawhide. Made from the best high gluten content rawhide obtainable.

Bamboo. A long wearing, moisture-proof pin for use in wet or damp places.

Size	Diam.	For	Lubrihide per Pkg.	Rawhide per Pkg.	Bamboo per Pkg.
No. 13	$\frac{3}{32}$	Nos. 1, 2, and 3 Hooks,	\$1.00	\$1.85	\$1.95
12	$\frac{7}{64}$	Nos. 4 and 4½ Hooks,	1.00	.85	.95
11	$\frac{1}{8}$	No. 5 Hooks,	1.00	.85	.95
10	$\frac{9}{64}$	No. 5 Hooks,	1.15	.95	1.10
9	$\frac{3}{32}$	No. 6 Hooks,	1.25	1.05	1.20
8	$\frac{11}{64}$	No. 6 Hooks,	1.35	1.15	1.30
7	$\frac{3}{16}$	Heavy Belts,	1.45	.....	.....
5	$\frac{5}{32}$	Heavy Belts,	2.00	.....	.....
Assorted	Sizes, Nos. 8 to 13, .....	.....	1.10	.90	1.05

Alligator Steel Belt Lacing



For use on leather, rubber, balata, stitched canvas or solid woven belting, giving a smooth, flexible joint; also for general service, high speed and heavy duty.

Efficient separable hinge lacing of extreme strength. Protects ends of fabric belts. Operates successfully with an idler or on serpentine drives. No tool required but a hammer.

Packed in boxes complete with gage and hinge pins.

Lacing No.	Per Box	CONTENTS		Thickness of Belt Inches
		No. Sets	For Size Belts, In.	
00	\$1.40	6	6	Up to 1/16
1	1.60	6	6	1/16 to 3/32
5	1.80	6	6	3/32 to 1/8
15	1.90	4	12	1/8 to 3/32
20	2.00	4	12	3/32 to 1/16
25D	2.50	4	12	3/32 to 1/16
25F	2.50	6	8	3/16 to 1/32
25G	5.00	8	12	3/16 to 1/32
27K	2.65	4	12	1/4 to 3/32
27L	5.30	8	12	1/4 to 3/32
35M	2.30	4	8	3/32 to 1/16
35N	3.40	4	12	3/32 to 1/16
45U	4.50	4	12	3/16 to 3/8
55W	5.20	4	12	3/8 to 1/2
65X	6.00	4	12	1/2 to 3/4
75	8.80	4	12	1/2 to 3/4

Corrugated pins supplied regularly with Nos. 00, 1 and 5 Alligator tape fasteners.

Sectional steel rocker hinge pins supplied regularly with Nos. 15 to 75, inclusive, for transmission service.

Rawhide hinge pins supplied with Nos. 00 to 45, inclusive, only upon request.

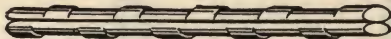
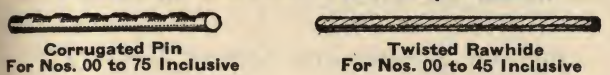
S Packages

Each package contains two 6-inch sets of lacing complete with gage and hinge pins.

Packed in cartons, 10 packages of a single size to the carton.

Size No.	15S	20S	25S	27S	35S
Per Carton	\$4.75	5.00	6.25	6.65	8.50

Extra Hinge Pins—Cut to Suit Requirements



Rocker Hinge Pin
For Nos. 15 to 75 Inclusive

Description	Per Doz.	For Lacing No.	For Lgth. Pins In.
Corrugated Wire or Rawhide Pins	.40	00	6
Corrugated Wire or Rawhide Pins	.40	1	6
Corrugated Wire or Rawhide Pins	.40	5	6
Rocker, Corrugated or Rawhide Pins	.90	15	12
Rocker, Corrugated or Rawhide Pins	.90	20	12
Rocker, Corrugated or Rawhide Pins	.90	25	12
Rocker, Corrugated or Rawhide Pins	1.00	27	12
Rocker, Corrugated or Rawhide Pins	1.00	35	12
Rocker, Corrugated or Rawhide Pins	1.20	45	12
Rocker or Corrugated Pins Only	1.40	55-65	12
Rocker or Corrugated Pins Only	1.70	75	12

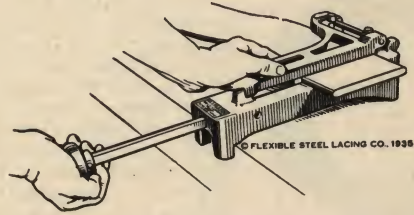
Cut Lacing



In 100-foot bunches.

Width.....in.	1/4	5/16	3/8	7/16	1/2	5/8	3/4
Per 100 Ft.....	\$2.50	3.00	3.75	4.50	5.50	6.50	7.50

Alligator Belt Cutters



Will cut any belt (except metal stitched) up to 1/2-inch thick by 8 inches in width.

The combination guard and equalizing hold down clamp holds the belt immovable while the cut is being made.

The knife is mounted on a plunger in a slot and is operated easily by a direct arm push without mechanical leverage, slicing the belt off clean and square.

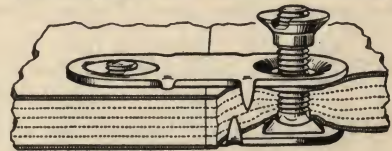
The knife, of alloy steel, will make several thousand cuts and is readily replaceable. Clamp and frame are of aluminum alloy.

Cutter is used in a horizontal position on a bench or is up-ended on the floor, whichever is the most convenient.

Packed in individual cartons, weight each, 5 1/4 pounds.

Each..... \$10.00
Extra knives, 75 cents each.

Flexco H D Belt Fasteners For Conveyor and Elevator Belting



Monel Metal (Non-Rusting)

Recommended for use under conditions that stimulate rust and corrosion of steel.

Size No.	Std. Box Complete per 10 Sets	Upper Plates Each	Lower Plates Each	Bolts Each	Nuts Each
1	\$30.00	\$.50	\$.50	\$.40	\$.60
1 1/4	35.00	.60	.60	.45	.70
1 1/2	40.00	.85	.85	.45	.70
2	47.00	1.20	1.20	.45	.70
2 1/2	70.00	2.00	2.00	.60	.90
3	80.00	2.50	2.50	.60	.90

Everdur (Non-Magnetic)

Non-magnetic; used on conveyors that run over magnetic pulley.

Size No.	Upper Plates Each	Lower Plates Each	Bolts Each	Nuts Each
1	\$20.00	\$.35	\$.35	\$.40
1 1/4	25.00	.40	.40	.35
1 1/2	30.00	.65	.65	.35
2	35.00	.90	.90	.35
2 1/2	45.00	1.15	1.15	.40
3	50.00	1.40	1.40	.40

*Promal Upper Plates (Abrasion Resisting)

A malleable cast iron specially heat-treated to be highly resistant to abrasion; recommended for coke conveyors.

Size No.	Upper Plates Each	Lower Plates Each	Bolts Each	Nuts Each
1	\$9.10	\$.40	...	...
1 1/4	10.65	.45	...	...
1 1/2	11.20	.50	...	...
2	13.80	.70	...	...
2 1/2	19.40	.90	...	...
3	21.00	1.00	...	...

*Upper plates only. Standard boxes contain Promal upper plates, steel bottom plates, steel bolts and nuts.

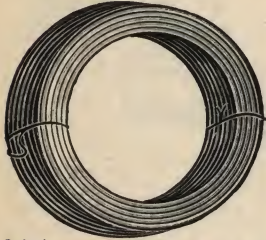


No. 15

Style B LX Belt Hooks**For Round Belts**

Especially adapted for sewing machine belts. Packed 500 in a box.

No. 17, for Belts Smaller than $\frac{1}{4}$ Inch.....	per 1000	\$2.00
No. 16, for Belts $\frac{1}{4}$ to $\frac{5}{16}$ Inch.....	per 1000	2.25
No. 15, for Belts $\frac{5}{16}$ to $\frac{3}{8}$ Inch.....	per 1000	2.50
No. 14, for Belts Over $\frac{3}{8}$ Inch.....	per 1000	3.00

Genuine LX Composition Wire Belt Lace

This wire belt lace is manufactured from a metal, the process a secret one, possessing all the qualifications needed to make it in every respect adapted to the purpose. It has a tensile strength of 2000 pounds when properly laced in an 8-inch, double leather belt. It will stand a far greater strain than is even estimated in the

driving capacity of a belt. It saves time and annoyances from temporary shut-downs, to repair broken belts and torn out lace holes. Made in 5 sizes, Nos. 00, 0, 1, 2 and 3.

Packed 50 feet to the box.

Prices upon application.

Boyer Belt Dressing Sticks

For use on leather, canvas and rubber belts. Prevents slipping. Cannot harm any kind of belt—contains no tar or pitch.

Prices upon application.

Kant-Slip Liquid Belt Dressing**For Leather, Canvas and Rubber Belts**

Kant-Slip Belt Dressing prolongs the life of leather and canvas belts by penetrating the belt, making it pliable and waterproof and leaving the surface clean under all conditions.

Applied to rubber belts, it gives adhesion to the surface and makes the belt grip the pulley, delivering maximum power.

Applied while the belt is in motion through a small applicator can which is furnished at no extra charge.

Container.....	*1-Qt. Can	* $\frac{1}{2}$ -Gal. Can	1-Gal. Can	5-Gal. Keg	15-Gal. Drum	30-Gal. Drum	50-Gal. Drum
Per Gallon.....	\$1.50	2.75	5.00	4.75	4.50	4.25	4.00

*Per can.

No. 225 Johnson Revolving Spring Punches

Forged Steel
With 6 Tubes

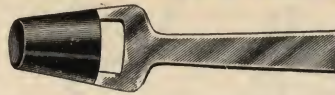


Made of forged steel. Tubes are made of steel, hand turned. The rollers holding the tubes are made of steel, and are ground to a smooth bearing after being riveted to the handles. Full polished.

Packed 6 in a box.

Weight per dozen, 10 pounds.

No. 225.....	per dozen	\$18.00
Extra Tubes.....	per dozen	1.80

No. 5 Arch Punches

Used for cutting canvas, felt, leather, sheet lead, soft brass and copper sheets, and other soft materials.

Made of alloy tool steel high in wearing and shock-resisting qualities which eliminate danger of crystallization. 1-inch size and under packed 2 in a box; over, 1 in a box.

Diam. Hole Inches	Per Dozen	Diam. Hole Inches	Per Dozen	Diam. Hole Inches	Per Dozen	Diam. Hole Inches	Per Dozen
$\frac{1}{4}$	\$9.00	$\frac{3}{4}$	\$11.50	$1\frac{1}{4}$	\$22.00	2	\$66.00
$\frac{5}{16}$	9.00	$\frac{13}{16}$	12.50	$1\frac{5}{16}$	27.00	$2\frac{1}{8}$	72.00
$\frac{3}{8}$	9.00	$\frac{7}{8}$	12.50	$1\frac{3}{8}$	29.00	$2\frac{1}{4}$	78.00
$\frac{7}{16}$	9.00	$1\frac{5}{16}$	13.50	$1\frac{7}{16}$	32.50	$2\frac{3}{8}$	87.25
$\frac{1}{2}$	9.50	1	13.50	$1\frac{1}{2}$	35.75	$2\frac{1}{2}$	94.50
$\frac{9}{16}$	10.50	$1\frac{1}{16}$	14.50	$1\frac{5}{8}$	39.00	$2\frac{5}{8}$	96.00
$\frac{5}{8}$	10.50	$1\frac{1}{8}$	16.50	$1\frac{3}{4}$	56.50	$2\frac{3}{4}$	100.00
$1\frac{1}{16}$	11.50	$1\frac{3}{16}$	19.00	$1\frac{7}{8}$	56.50	3	120.00

No. 245 Saddlers' Punches

The barrel of this punch is swaged and the slot is milled out. Packed one dozen in a box.

No.	Size Hole Inches	Weight Pounds per Dozen	Price per Dozen	No.	Size Hole Inches	Weight Pounds per Dozen	Price per Dozen
1	$\frac{7}{64}$	1	\$1.65	9	$\frac{1}{4}$	$1\frac{1}{4}$	\$2.25
2	$\frac{1}{8}$	1	1.65	10	$\frac{17}{64}$	$1\frac{1}{2}$	2.90
3	$\frac{9}{64}$	1	1.65	11	$\frac{9}{32}$	$1\frac{1}{2}$	2.90
4	$\frac{5}{32}$	1	1.65	12	$\frac{5}{16}$	$1\frac{1}{2}$	2.90
5	$11\frac{1}{64}$	1	1.65	13	$1\frac{1}{32}$	$2\frac{1}{2}$	5.50
6	$\frac{3}{16}$	1	1.65	14	$\frac{3}{8}$	$2\frac{1}{2}$	5.50
7	$13\frac{1}{64}$	$1\frac{1}{4}$	2.25	15	$\frac{13}{32}$	$3\frac{1}{4}$	6.50
8	$\frac{7}{32}$	$1\frac{1}{4}$	2.25	16	$\frac{7}{16}$	$3\frac{1}{4}$	6.50

No. 407 Washer Cutters

This tool is made to cut up to 6 inches. It is used for cutting gaskets out of leather, paper, rubber, sheet lead, or thin wood, cutting both inner and outer circle at the same time and adapted to any ordinary brace.

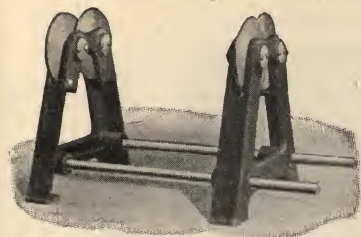
Price, No. 407, 6-Inch with Gauge.....	each	\$2.25
Price, No. 409, Knives Only.....	each	.75
Price, No. 410, Screws Only.....	each	.25

20-Inch Washer and Gasket Cutters

Adapted to cutting gaskets from 4 to 20 inches in diameter. Knives are of the best steel, well tempered and are adjusted by knurled thumb-screws. Center pin is also of steel. The cutter is jappaned, polished and has a gauge.

No. 411.....	each	\$2.75
No. 409, Knives only.....	each	.75
No. 410, Screws only.....	each	.25

Anderson Improved Balancing Ways

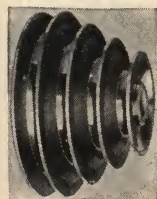


Made in 6 sizes, to balance anything that revolves, from a crank shaft to a turbine rotor. Requires no special leveling, no adjustment and no centers.

Equipped with glass-hard spindles, chilled steel discs and especially sensitive ball bearings.

Diameter Work...in.	20	40	60	72	96
Each.....	\$38.50	44 00	55.00	192.50	275.00
Greatest Distance between Standards...in.	20	30	30	66	88
Capacity.....lbs.	1000	2000	2000	5000	10000
Shipping Weight lbs.	45	90	150	350	650

Delta Cone Pulleys



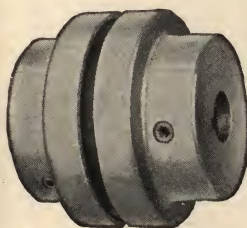
Useful for a wide variety of power drives.

Nos. 718 and 720 can be used in any combination with each other. No. 932 cone pulley should be used only paired with another No. 932, and No. 985, with another No. 985.

Furnished in 1/2, 5/8 and 3/4-inch bores; 1/2-inch furnished unless otherwise specified.

No. 718 Small 4-Step Cone Pulley, Shipping Weight 1 1/4 Pounds.....each	.....
No. 720 Large 4-Step Cone Pulley, Shipping Weight 1 3/4 Pounds.....each	.....
No. 932 Four-Speed Cone Pulley, Shipping Weight 2 1/2 Pounds.....each	.....
No. 985 Four-Speed Cone Pulley, Shipping Weight 2 1/2 Pounds.....each	.....

Central Die Cast Flexible Couplings



Consists of 2 metal flanges and 1 non-metallic insert. Diamond bored; perfectly balanced.

Nos. 124 to 140 have steel inserted driving lugs.

Nos. 109 to 117 have screw driver type set screws; and Nos. 124 to 140 have hollow head set screws.

Silver-aluminum finish.

No extra charge for combination bores. Small charge for special bores and keyways.

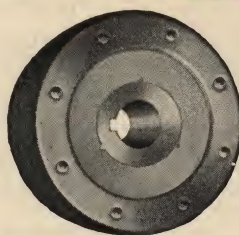
No.	Each	O.D. Inches	Overall Length Inches	Hub Length Inches	Hub Diameter Inches	Weight Pounds
109	\$.85	1 7/8	1 7/8	5/8	1 1/8	1 1/2
110	1.15	2 1/8	1 7/8	5/8	1 1/2	3/4
117	3.25	2 3/4	2 1/2	3/4	1 3/4	1 1/2
124	7.00	3 3/16	3 1/4	7/8	2 1/4	2 3/4
126	9.00	4	3 3/16	1 5/16	2 3/4	5 3/4
145	16.00	4 5/8	4 3/16	1 3/16	3 1/4	9
140	26.00	6	6 1/8	1 3/4	4 7/8	19

Bore, Inches

No.	1/4	5/16	3/8	7/16	1/2
109	3/8	7/16	1/2	5/8	3/4
110	1/2	5/8	3/4	7/8	1
117	3/4	7/8	1	1 1/8	1 1/4
124	1 1/8	1 1/4	1 1/2	1 3/4	1 7/8
126	1 1/4	1 1/2	1 3/4	1 7/8	2
145	1 3/4	2	2 1/4	2 1/2	2 3/4
140	2 1/4	2 1/2	2 3/4	2 7/8	3

Keyway Data

Bore, Inches	Keyway, In.
1/4, 5/16, 3/8, 7/16, 1/2	None
5/8, 3/4, 7/8	3/16 x 3/8
1, 1 1/8, 1 1/4, 1 1/2	1/4 x 1/2
1 3/4, 1 7/8, 2	5/16 x 5/8
2 1/4, 2 1/2, 2 3/4	3/8 x 3/4
2 7/8, 3	1/2 x 1/4

Browning Paper Pulleys
Standard Size Pulleys

Browning Paper Pulleys consist of a solid block of tough wear-resisting fibre, built around and into a heavy cast iron hub.

The maximum and minimum range of bores given are approximately correct. In some instances the sizes within the range are special.

Fixed bore type pulleys 1/2 to 2-inch bores by 1/16ths and 2 1/8 to 3 1/2-inch bores by 1/8ths. Interchangeable bushing type pulleys: Type FA 1/2 to 1 5/8-inch bores by 1/16ths; Type FB 3/4 to 2 3/8-inch bores by 1/16ths except 2 1/16-inch.

TOTAL BELT					BORE RANGE, IN.		TOTAL BELT					BORE RANGE, IN.					
Diam. Face Width			Inter-changeable		Each	Diam. Face Width			Inter-changeable		Each	Diam. Face Width			Inter-changeable		Each
In.	In.	In.	Fixed	Each		In.	In.	In.	Fixed	Each		In.	In.	In.	Fixed	Each	
1 1/2	2	1 1/2	1 1/2	3 4	\$1.80	8	9	8	1 1/2	2 1/2	FB	\$14.90					
1 1/2	2 1/2	2	2	3 4	2.30	8	10	9	1 1/2	2 1/2	...	16.70					
2	2 1/2	1 1/2	1 1/2	3 4	2.20	8	11	10	1 1/2	2 1/2	FB	18.70					
2	2 1/2	2	2	3 4	2.70	8	12	11	1 1/2	2 1/2	...	20.90					
2	3 1/2	3	2 1/2	3 4	3.30	9	3 1/2	3	1	1	FA	9.80					
2 1/2	2 1/2	1 1/2	1 1/2	3 4	2.60	9	4 1/2	4	1	1 1/4	FA	10.80					
2 1/2	2 1/2	2	2	3 4	3.10	9	5 1/2	5	1	1 1/2	FA-FB	11.90					
2 1/2	3 1/2	3	3	3 4	3.70	9	7	6	1	1 1/2	FA-FB	13.20					
2 1/2	4 1/4	4	4	3 4	4.40	9	8	7	1	2	...	14.70					
3	2	1 1/2	1 1/2	3 4	3.00	9	9	8	1	2	FB	16.40					
3	2 1/2	2	2	3 4	3.50	9	10	9	1	2	...	18.30					
3	3 1/2	3	3	3 4	4.10	9	11	10	1 1/2	2 1/2	FB	20.40					
3	4 1/4	4	4	3 4	4.80	9	12	11	2	2 1/2	...	22.70					
3	5 1/2	5	5	3 4	5.50	9	13	12	2 1/8	2 1/2	...	25.20					
3 1/2	2	1 1/2	1 1/2	3 4	3.50	10	3 1/2	3	1	1 1/4	FA	10.90					
3 1/2	2 1/2	2	2	3 4	4.00	10	4 1/2	4	1	1 1/2	FA	11.90					
3 1/2	3 1/2	3	3	3 4	4.60	10	5 1/2	5	1 1/4	2	FA-FB	13.10					
3 1/2	4 1/4	4	4	3 4	5.30	10	7	6	1 1/4	2 1/2	FA-FB	14.50					
3 1/2	5 1/2	5	5	3 4	6.10	10	8	7	1 1/2	2 1/2	...	16.10					
4	2	1 1/2	1 1/2	3 4	4.00	10	9	8	1 1/8	2 1/2	FB	17.90					
4	2 1/2	2	2	3 4	4.50	10	10	9	1 1/2	2 1/2	...	19.90					
4	3 1/2	3	3	3 4	5.10	10	11	10	1 1/2	3	FB	22.10					
4	4 1/4	4	4	3 4	5.80	10	12	11	2 1/4	2 1/2	...	24.60					
4	5 1/2	5	5	3 4	6.60	10	13	12	2 3/8	2 1/2	...	27.40					
4 1/2	7	6	1	2	7.60	11	3 1/2	3	1	1 1/4	FA	12.00					
4 1/2	2 1/2	2	2	3 4	4.90	11	4 1/2	4	1	1 1/4	FA	13.20					
4 1/2	3 1/2	3	3	3 4	5.50	11	5 1/2	5	1 1/4	1 1/2	FB	14.60					
4 1/2	4 1/4	4	4	3 4	6.20	11	7	6	1 1/2	2 1/2	FB	16.20					
4 1/2	5 1/2	5	1	1	7.00	11	8	7	1	2 1/2	...	18.00					
4 1/2	7 6	1	1	2	8.00	11	9	8	1 1/2	2 1/2	FB	20.00					
5	2 1/2	2	2	3 4	5.30	11	10	9	1	2 1/2	...	22.20					
5	3 1/2	3	3	3 4	5.90	11	11	10	2 1/2	2 1/2	FB	24.60					
5	4 1/4	4	4	3 4	6.60	11	12	11	2 3/8	2 1/2	...	27.30					
5	5 1/2	5	5	3 4	7.40	11	13	12	2 7/8	2 1/2	...	30.30					
5	7 6	1	1	2	8.40	12	3 1/2	3	1	1 1/4	FA	13.10					
5	8 7	1	1	2	9.50	12	4 1/2	4	1	1 1/4	FA	14.40					
5 1/2	2 1/2	2	2	3 4	5.70	12	5 1/2	5	1 1/2	2	FB	15.90					
5 1/2	3 1/2	3	3	3 4	6.40	12	7	6	1 1/2	2 1/2	FB	17.60					
5 1/2	4 1/4	4	4	3 4	7.20	12	8	7	1 1/2	2 1/2	...	19.50					
5 1/2	5 1/2	5	1	1	8.00	12	9	8	1	2 1/2	FB	21.60					
5 1/2	7 6	1	1	2	9.00	12	10	9	1	2 1/2	...	24.00					
5 1/2	8 7	1	1	2	10.10	12	11	10	1 1/2	2 1/2	FB	26.70					
5 1/2	9 8	1	1	2	11.40	12	12	11	2	3	...	29.70					
6	2 1/2	2	2	3 4	6.20	12	13	12	2 3/8	2 1/2	...	33.00					
6	3 1/2	3	3	3 4	6.90	13	3 1/2	3	1 1/4	2 1/2	FA	14.20					
6	4 1/4	4	4	3 4	7.70	13	4 1/2	4	1	1 1/4	FA	15.60					
6	5 1/2	5	2	2	8.50	13	5 1/2	5	1	1 1/2	FB	17.20					
6	7 6	1	1	2	9.50	13	7	6	1	2 1/2	FB	19.00					
6	8 7	1	1	2	10.70	13	8	7	2	2 1/2	...	21.10					
6	9 8	1	1	2	12.10	13	9	8	1	2 1/2	FB	23.50					
6	10 9	1	1	2	13.70	13	10	9	2 1/2	2 1/2	...	26.20					
7	3 1/2	3	3	3 4	7.70	13	11	10	2 1/2	2 1/2	FB	29.20					
7	4 1/4	4	4	3 4	8.60	13	12	11	2 1/2	2 1/2	...	32.50					
7	5 1/2	5	1	2	9.60	13	13	12	2 3/8	2 1/2	...	36.10					
7	7 6	1	1	2	10.70	14	3 1/2	3	1 1/4	2 1/2	FA	15.30					
7	8 7	1	1	2	12.00	14	4 1/2	4	1	1 1/4	FA	16.80					
7	9 8	1	1	2	13.50	14	5 1/2	5	1 1/4	1 1/2	FB	18.60					
7	10 9	1	1	2	15.20	14	7	6	1	1 1/2	FB	20.70					
7	11 10	1	1	2	17.10	14	8	7	1 1/2	2 1/2	...	23.10					
8	3 1/2	3	1	1/6	8.70	14	9	8	1	2 1/2	FB	25.80					
8	4 1/4	4	1	1	9.70	14	10	9	2 1/2	2 1/2	...	28.80					
8	5 1/2	5	1	2	10.70	14	11	10	2 1/2	2 1/2	FB	32.10					
8	7 6	1	1	2	11.90	14	12	11	2	3	...	35.70					
8	8 7	1	1	2	13.30	14	13	12	2 3/8	2 1/2	...	39.60					

H. & A. Blue Heart Pure Manila Rope

3-Strand



Easily identified by the Blue Heart marker through the center or heart of every foot of the rope.

Made only of specially selected, high grade, pure, long fibre manila. Carefully constructed to exacting standards on precision machines insuring uniform quality, dependable and satisfactory service. Lubricated for wear and treated against water and weathering. Flexible and smooth running under nearly all rope working conditions.

Fully meets U.S. Government Specifications. Every coil of Blue Heart bears the Hooven & Allison Co. guarantee tag.

Specifications of 3-Strand Blue Heart Manila Rope

SIZE, INCHES		Tensile	Approx.	Feet	Wt.	APPROX.	SHIP.
Diam.	Circum.	Strength	Length	per	Lbs.	WEIGHT	Half
		Pounds	Full	Pound	per	Full	Coils
			Coils		Ft.	Coils	Coils
3/16	5/8	450	3000	66.600	.015	45	23
1/4	3/4	600	2750	50.000	.020	55	28
5/16	1	1000	2250	34.500	.029	65	32
3/8	1 1/8	1350	1620	24.400	.041	66	33
7/16	1 1/4	1750	1200	19.000	.053	63	31
1/2	1 1/2	2650	1200	13.300	.075	90	45
9/16	1 3/4	3450	1200	9.610	.104	125	62
5/8	2	4400	1200	7.520	.133	160	80
3/4	2 1/4	5400	1200	6.000	.167	200	100
13/16	2 1/2	6500	1200	5.130	.195	234	117
7/8	2 3/4	7700	1200	4.450	.225	270	135
1	3	9000	1200	3.710	.270	324	162
1 1/8	3 1/2	12000	1200	2.780	.360	432	216
1 1/4	3 3/4	13500	1200	2.400	.418	502	251
1 5/16	4	15000	1200	2.090	.480	576	288
1 1/2	4 1/2	18500	1200	1.670	.600	720	360
1 5/8	5	22500	1200	1.340	.744	893	447
1 3/4	5 1/2	26500	1200	1.120	.895	1074	537
2	6	31000	1200	.930	1.080	1290	645
2 1/8	6 1/2	36000	1200	.800	1.250	1503	751
2 1/4	7	41000	1200	.685	1.460	1752	876
2 1/2	7 1/2	46500	1200	.600	1.670	2004	1002
2 5/8	8	52000	1200	.524	1.910	2290	1145
3	9	64000	1200	.414	2.420	2900	1450

Rope should not be subjected to working strain of more than one-fifth of the indicated tensile strength.

Four-strand rope has approximately the same tensile strength as 3-strand but is about 5% heavier.

Sisal rope is approximately 75% as strong as the corresponding grade of manila rope.

Prices upon application.

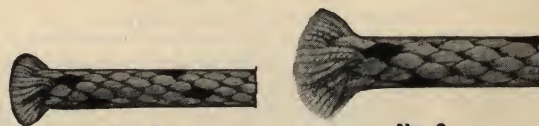
H. & A. Red Heart Sisal Rope

Quickly identified by the red thread marker through the center or heart of the rope. Carefully and correctly made of highest and best grades of selected pure sisal fibre. Preferred by many for the lighter rope jobs and very popular for general farm use. The quality of Red Heart is consistently maintained.

Can be supplied in any kind of rope construction. The standard sizes are as follows: 3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 13/16, 7/8, 1, 1 1/8, and 1 1/4-inch diameters.

Prices upon application.

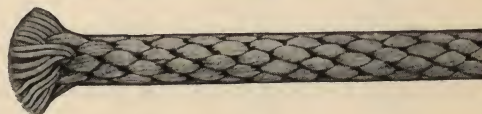
Samson Spot Sash Cord



Put up in hanks of 100 feet each (usually 2 connected), one dozen hanks (1200 feet) in a paper package. Also in coils, or on tubes or reels about 1200 feet each unless otherwise ordered. The colored spots are a trade-mark used only with this extra quality cord.

Size No.	6	7	8	9	10	12
Diameter.....in.	3/16	7/32	1/4	9/32	5/16	3/8
Feet per Pound...	66	55	44	36	27	20
Min. Diam.						
Pulley.....in.	1 1/2	1 3/4	2	2 1/4	2 1/2	3
Suitable Wt. lbs.	{ Less than 15 }	15-20	20-25	25-35	35-45	45-60

Phoenix Braided Sash Cord



Put up in hanks of 100 feet each, two connected, one dozen hanks, 1200 feet, in a package, or in coils, tubes or reels of any desired length.

Size No.	Diam. Inches	Approx. Feet per Pound	Min. Diam. Pulley Inches	Price per Pound
6	3/16	66	1 1/2	....
7	7/32	55	1 3/4	....
8	1/4	44	2	....
9	9/32	36	2 1/4	....
10	5/16	27	2 1/2	....
12	3/8	20	3	....

Samson Masons' Lines



No. 3 1/2



No. 4



No. 4 1/2



No. 5

Made in white (unbleached) and drab cotton with glazed finish. Special colors made to order.

No. 3 1/2, No. 4, No. 4 1/2 are put up in hanks of 48 feet each (several connected in one length), one dozen hanks (192 yards) in a box, or in coils of about 1000 yards each. No. 5 is put up in hanks of 100 feet each (two hanks connected), one dozen in a package, or in coils of about 1000 yards each.

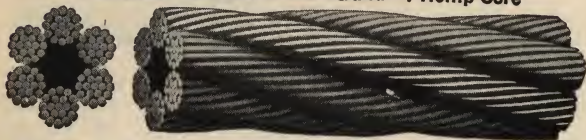
No.	IN HANKS—PER DOZ.		IN COILS—PER 100 Yds.	
	White	Drab	White	Drab
3 1/2
4
4 1/2
5

Leschen Hercules Red Strand Wire Rope

(REG. U.S. PAT. OFF.)

Round Strand Construction

6 Strands—19 Wires to the Strand—1 Hemp Core



This rope is the standard hoisting construction used on cableways, cranes, derricks, logging machines, etc. The correct combination of toughness, flexibility, elasticity, and strength makes this rope wear resisting at every point.

Diam. In.	Per Foot	Breaking Strength in Tons of 2000 Lbs.	Approx. Weight Pounds per Foot	Usual Working Load in Tons of 2000 Lbs. Advised Ft.	Diam. of Drum or Sheave
1/4	\$.13	2.9	.10		
5/16	.13 1/2	4.5	.16		
3/8	.14 1/2	6.3	.23		
7/16	.15 1/2	8.4	.31		
1/2	.17	10.8	.40		
9/16	.19	13.5	.51		
5/8	.22 1/2	16.6	.63		
3/4	.31	23.7	.90		
7/8	.39	32.2	1.23		
1	.50	42.0	1.60		
1 1/8	.62	53.0	2.03		
1 1/4	.75	65.0	2.50		
1 3/8	.90	78.5	3.03		
1 1/2	1.10	92.5	3.60		
1 5/8	1.30	108.0	4.23		
1 3/4	1.60	124.0	4.90		
1 7/8	1.75	142.0	5.63		
2	1.85	161.0	6.40		
2 1/4	2.50	202.0	8.10		
2 1/2	2.80	246.0	10.00		
2 3/4	3.45	294.0	12.10		

See Explanatory Note

See Explanatory Note

Can also be furnished with a wire rope center or a metallic core, either of which increases strength of the rope about 7 1/2% and increases hemp center list price 15%.

Leschen Hercules Red Strand Wire Rope

(REG. U. S. PAT. OFF.)

Round Strand Construction

6 Strands—37 Wires to the Strand—1 Hemp Core



For cranes, and for use on certain types of derricks, log-loaders, mining machines, and steam shovels. This is a wire rope that offers unusual flexibility with great durability.

Diam. In.	Per Foot	Breaking Strength in Tons of 2000 Lbs.	Approx. Weight Pounds per Foot	Usual Working Load in Tons of 2000 Lbs.	Diam. of Drum or Sheave Feet
3/8	\$.17 1/2	6.1	.22		
7/16	.18 1/2	8.3	.30		
1/2	.20	10.6	.39		
9/16	.23	13.2	.49		
5/8	.27	16.1	.61		
3/4	.36	22.8	.87		
7/8	.46	30.5	1.19		
1	.59	39.5	1.55		
1 1/8	.75	49.9	1.96		
1 1/4	.86	61.5	2.42		
1 3/8	1.05	74.3	2.93		
1 1/2	1.25	88.2	3.49		
1 5/8	1.45	103.3	4.09		
1 3/4	1.75	119.5	4.75		
2	2.10	155.0	6.20		
2 1/8	2.40	174.0	7.00		
2 1/4	2.75	194.0	7.85		
2 1/2	3.15	237.0	9.69		
2 3/4	3.75	285.0	11.72		
3	4.50	337.0	13.95		

See Explanatory Note

See Explanatory Note

Can also be furnished with a wire rope center or a metallic core, either of which increases strength of the rope about 7 1/2% and increases hemp center list price 15%.

Leschen Hercules Red Strand Wire Rope

(REG. U.S. PAT. OFF.)

Flattened Strand Construction

Style B, Hemp Center

Style G, Hemp Center, Extra Flexible



Style B



Style G

A strong wire rope for hoisting and haulage purposes. Particularly recommended for cableways, cranes, dredges, excavators, steam shovels, and for heavy hoisting work. The large, flat bearing area where the keystone shape strands meet, reduces the possibility of the strands nicking or cutting each other, thereby maintaining the original strength of the rope for a much longer period.

Diam. In.	Per Foot	Breaking Strength in Tons of 2000 Lbs.	Approx. Weight Pounds per Foot	Usual Working Load in Tons of 2000 Lbs.	Diam. of Drum or Sheave Feet
3/8	\$.18 1/4	6.9	.25		
1/2	.20 3/4	11.8	.45		
5/16	.25	14.8	.57		
5/8	.28	18.2	.70		
3/4	.37 1/2	26.0	1.01		
7/8	.49	35.4	1.39		
1	.60	46.0	1.80		
1 1/8	.71	58.0	2.28		
1 1/4	.89	71.5	2.81		
1 3/8	1.12	86.0	3.40		
1 1/2	1.37	101.0	4.05		
1 5/8	1.56	118.0	4.75		
1 3/4	2.08	136.0	5.51		
2	2.25	177.0	7.20		
2 1/4	2.85	222.0	9.10		
2 1/2	3.50	270.0	11.20		
2 3/4	4.30	323.0	13.60		

See Explanatory Note

See Explanatory Note

Can also be furnished with a wire rope center or a metallic core, either of which increases strength of the rope about 7 1/2% and increases hemp center list price 15%.

Leschen Hercules Red Strand Wire Rope

(REG. U. S. PAT. OFF.)

Extra Flexible Round Strand Construction

8 Strands—19 Wires to the Strand—1 Hemp Core



Especially recommended for use as swinging lines on steam shovels, and for hoisting lines on some of the small type shovels.

Combines strength, flexibility, toughness, and durability.

Diam- eter Inches	Per Foot	Approx. Weight Pounds per Foot	Breaking Strength in Tons of 2000 Pounds	Usual Working Load in Tons of 2000 Lbs.	Diam. of Drum or Sheave Advised Feet
1/2	\$.19	.36	9.5		
9/16	.22	.46	11.8		
5/8	.25	.57	14.4		
3/4	.34	.82	20.5		
7/8	.43	1.11	27.6		
1	.55	1.45	35.8		
1 1/8	.68	1.84	45.2		
1 1/4	.82	2.27	55.7		
1 3/8	.98	2.74	67.		
1 1/2	1.19	3.26	79.5		

See Explanatory Note

See Explanatory Note

Can also be furnished with a wire rope center or a metallic core, either of which increases strength of the rope about 7 1/2% and increases hemp center list price 15%.

Leschen Wire Rope Plow Steel Hoisting Rope

6 Strands—19 Wires to the Strand—1 Hemp Core



For use where heavy work is performed under conditions where sufficiently large drums and sheaves are practicable. The tensile strength developed in plow steel wire rope is high.

Diam. In.	Per Foot	Breaking Strength in Tons of 2000 Lbs.	Approx. Weight Pounds per Foot	Usual Working Load in Tons of 2000 Lbs.	Diam. of Drum or Sheave Advised Feet
1/4	\$.12	2.5	.10		
5/16	\$.12 1/4	3.9	.16		
3/8	.13	5.5	.23		
7/16	.14	7.3	.31		
1/2	.16	9.4	.40		
9/16	.18 1/4	11.7	.51		
5/8	.21	14.4	.63		
3/4	.28	20.6	.90		
7/8	.34 1/2	28.0	1.23		
1	.43	36.5	1.60		
1 1/8	.54	46.0	2.03		
1 1/4	.65	56.5	2.50		
1 3/8	.79	68.0	3.03		
1 1/2	.93	80.5	3.60		
1 5/8	1.08	94.0	4.23		
1 3/4	1.30	108.0	4.90		
1 7/8	1.46	123.0	5.63		
2	1.58	140.0	6.40		
2 1/4	2.00	176.0	8.10		
2 1/2	2.50	214.0	10.00		
2 3/4	3.00	256.0	12.10		

See Explanatory Note

See Explanatory Note

Can also be furnished with a wire rope center or a metallic core, either of which increases strength of the rope about 7 1/2% and increases hemp center list price 15%.

Leschen Plow Steel Wire Hoisting Rope

Extra Flexible

6 Strands of 37 Wires Each—1 Hemp Core



Diameter Inches	Per Foot	Breaking Strength in Tons of 2000 Pounds	Approx. Weight Pounds per Foot
1/4	\$.16	2.4	.10
5/16	\$.16 1/2	3.8	.15
3/8	.17	5.3	.22
7/16	.17 3/4	7.2	.30
1/2	.19	9.2	.39
9/16	.22 1/2	11.5	.49
5/8	.25	14	.61
3/4	.34	19.8	.87
7/8	.43	26.5	1.19
1	.52 1/2	34.4	1.55
1 1/8	.66	43.5	1.96
1 1/4	.78	53.5	2.42
1 3/8	.93	64.6	2.93
1 1/2	1.15	76.7	3.49
1 5/8	1.25	89.8	4.09
1 3/4	1.50	104	4.75
1 7/8	1.65	119	5.45
2	1.80	135	6.20
2 1/4	2.20	168	7.85
2 1/2	2.75	206	9.69
2 3/4	3.30	248	11.72
3	3.95	293	13.95

For ropes made with either a wire rope center or a metallic core, add 15 per cent to hemp center list prices.

Leschen Preformed Wire Rope

For some conditions it is advisable to preform wires and strands in a wire rope. Some of the chief characteristics of a preformed wire rope are: It will not unravel or fly apart if ends are not seized; it is not easily kinked; as broken wires lie practically flat, they are not so apt to injure hands of the men handling it; in certain constructions it is somewhat more flexible, which, combined with its inert qualities, makes for smoother spooling and easier handling; preforming process minimizes tendency of Lang's Lay wire rope to untwist, kink, and bird cage; as wires and strands are preformed or shaped to normal form they will occupy in rope, there is less turning and twisting of rope in grooves, and less internal movement of wires and strands, all of which tends to reduce both external and internal wear.

Preforming is a process that can be applied to both round strand and flattened strand constructions.

Prices quoted upon application.

Leschen Wire Rope

Iron and Cast Steel Tiller Rope

6 Strands—42 Wires to the Strand—7 Hemp Cores



Tiller rope, being made of a large number of small, fine wires, is the most pliable wire rope manufactured.

Its use is restricted to conditions where the stresses are light and small sheaves are necessary. It is chiefly used on elevators as a hand rope and as a steering rope on yachts and motor boats.

When standard bright ropes are galvanized, add 25% to the bright rope list prices and apply bright rope discount.

Diam. In.	PER FOOT			Approx. Weight Pounds per Foot
	Iron	Cast Steel	Plow Steel	
1/4	\$.07 1/2	\$.11	\$.16	.07
5/16	.08	.12 1/2	.18	.11
3/8	.09	.14	.21	.16
7/16	.10	.15	.23	.21
1/2	.11 1/2	.17	.26	.28
9/16	.14	.20	.29	.35
5/8	.17	.24	.36	.43
3/4	.22	.30	.45	.62

Leschen Sash Cord

6 Strands—7 Wires to the Strand—1 Cotton Center



Diameter Inches	PER FOOT		Breaking Strength Pounds	Approximate Weight Pounds per 100 Feet
	Bright Iron	Galvanized Iron		
1/16	\$.01 1/4	\$.01 3/4	140	.6
3/32	.01 1/2	.02	315	1.3
1/8	.01 3/4	.02 1/4	560	2.3
3/16	.02 1/4	.03	1150	5.3
7/32	.02 3/4	.03 1/2	1570	7.2
1/4	.03	.04	2040	9.4

Genuine Crosby Wire Rope Clips
Drop Forged Steel

Scientifically designed for greatest grip. Base has high tapering wings to hold one rope squarely on the other, insuring uniform grip. Grooved and depressed rope channel locks the grip without injury to the rope. Smooth finish. Hot dip galvanized.



Diam. Rope In.	Each	Diam. Rope In.	Each	Diam. Rope In.	Each
1/8	\$.25	3/4	\$.65	2	\$7.50
3/16	.30	7/8	.75	2 1/4	9.50
1/4	.35	1	.85	2 1/2	11.50
5/16	.35	1 1/8	.95	2 3/4	25.00
3/8	.40	1 1/4	1.10	3	35.00
7/16	.45	1 3/8	1.25	3 1/2	45.00
1/2	.45	1 1/2	1.50	4	60.00
9/16	.55	1 5/8	3.50	...	...
5/8	.55	1 3/4	5.50	...	...

Wire Rope Clips



Furnished either japanned or galvanized.

Diam. Rope In.	PER 100	PER 100	Approx. Weight Lbs. per 100	Diam. Rope In.	PER 100	PER 100	Approx. Weight Lbs. per 100
	Japd.	Galv.			Japd.	Galv.	
3/16	\$6.50	\$8.00	11	1 1/8	\$75.00	\$95.00	240
1/4	6.50	8.00	14	1 1/4	90.00	112.00	300
5/16	7.00	9.00	16	1 3/8	105.00	130.00	435
3/8	9.70	12.00	22	1 1/2	120.00	150.00	480
7/16	12.50	15.50	28	1 5/8	265.00	365.00	800
1/2	14.50	18.50	40	1 3/4	310.00	415.00	1000
9/16	19.00	24.50	52	2	415.00	550.00	1400
5/8	19.00	24.50	55	2 1/4	650.00	875.00	1900
3/4	27.00	35.00	85	2 1/2	800.00	1050.00	2300
7/8	38.50	50.00	125	2 3/4	1000.00	1400.00	2500
1	46.50	60.00	145	3	1200.00	1700.00	3300

No. 305 Drop-Forged Steel Hooks and Manila Rope Thimbles
Large Eye



Size In.	With Thimble Galvanized Each	Without Thimble Galvanized Each	Overall Length Hook In.	I.D. Eye In.	For Diam. Rope In.	Throat Opening In.	Wt. Lbs. per 100 with Thimble
1/4	\$.22	\$.15	1 15/16	1/2	5/16	1/2	6 1/4
5/16	.22	.15	2 3/8	9/16	3/8	1 1/16	13
3/8	.25	.18	2 3/4	3/4	7/16	3/4	19
1/2	.30	.20	3 3/8	15/16	5/8	7/8	38
5/8	.50	.35	4 1/2	1 1/8	3/4	1	83
3/4	.60	.45	5 1/16	1 1/16	7/8	1 3/16	136
7/8	.80	.60	6 3/16	1 9/16	1	1 17/16	195
1	1.00	.75	7 3/8	1 13/16	1 1/8	1 11/16	304
1 1/8	1.35	1.05	7 7/4	1 15/16	1 1/4	1 3/4	367
1 1/4	1.65	1.30	8 1/2	2 5/16	1 3/8	2 1/16	452

For self-colored finish deduct 5%. Galvanized hooks with thimble furnished unless otherwise specified.

Laughlin Safety Wire Rope Clips

A new design, patented clip of drop-forged steel, hot galvanized. Simple and easy to install. Holds by friction. There is no deformity or crimping to weaken the rope.



Diam. Rope Inches	Each	Est. Wt. Lb. per 100 Clips
1/4	\$.35	25
5/16	.35	29 1/4
3/8	.40	36
7/16	.45	50
1/2	.45	57
5/8	.55	95
3/4	.65	134
7/8	.75	220
1	.85	260
1 1/8	.95	312
1 1/4	1.10	410
1 1/2	1.50	650

No. 415 Manila Rope Thimbles
Wrought Steel—Galvanized

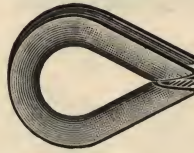


For self colored finish deduct 10%.

For Diam. Rope Inches	Each	Outside Diam. Edge to Edge Inches	Est. Wt. Lbs. per 100	For Diam. Rope Inches	Each	Outside Diam. Edge to Edge Inches	Est. Wt. Lbs. per 100
5/16	\$.05	3/4	1 1/16	1	\$.18	2 1/4	25
3/8	.05	7/8	2 1/8	1 1/8	.20	2 1/2	37 1/2
7/16	.06	1	4 1/4	1 1/4	.30	2 3/4	62 1/2
1/2	.08	1 1/4	6 1/2	1 3/8	.40	3	62 1/2
5/8	.10	1 1/2	8 1/4	1 1/2	.50	3 1/2	95
3/4	.12	1 3/4	19	1 3/4	1.00	4	150
7/8	.15	2	26	2	2.00	5	290

No. G-411 Laughlin Wire Rope Thimbles

For Size Rope, In.	Per 100	Wt. Lb. per 100
1/8	\$4.40	2 1/2
3/16	4.40	3
1/4	4.40	5
5/16	5.25	7
3/8	6.00	8
7/16	7.00	14
1/2	8.00	17
5/8	11.00	38
3/4	13.00	50
7/8	16.00	62
1	21.00	105
1 1/8	38.00	281
1 1/4	44.00	300
1 1/2	120.00	315
1 3/4	160.00	550
2	200.00	750



No. 307 Drop-Forged Steel Hooks and Wire Rope Thimbles

Galvanized hooks with thimbles furnished unless otherwise specified.

Size In.	Galv. with Thimble Each	Galv. without Thimble Each	Overall Lgth. Hook In.	I.D. Eye In.	Score Thimble In.	Throat Opening In.	Wt. Lb. per 100 with Thimbles
1/4	\$.22	\$.15	2	1/2	3/16	3/8	7
5/16	.22	.15	2 3/8	9/16	1/4	1/2	12 1/2
3/8	.25	.18	2 1/2	5/8	5/16	9/16	19
1/2	.30	.20	3 1/4	3/4	3/8	1 1/16	36
5/8	.50	.35	4	15/16	1/2	15/16	62
3/4	.60	.45	4 7/8	1 1/16	1/2	1 1/8	102
7/8	.80	.60	5 3/8	1 1/8	5/8	1 3/16	170
1	1.00	.75	6 1/4	1 1/4	3/4	1 1/4	250
1 1/8	1.35	1.05	7	1 1/16	7/8	1 7/16	331
1 1/4	1.65	1.30	7 3/8	1 1/2	1	1 1/2	425



For self-colored finish deduct 5%.

Small Iron Turnbuckles



Body is of grey iron; steel eyes.

Udylite Plated No.	Per Gross	Nickel-Plated No.	Per Gross	Screw Size Inches	Length Closed Inches	Take Up Inches	Wt. Lb. Per Gross
24	\$13.00	25	\$12.00	$\frac{3}{16}$	3	$1\frac{1}{2}$	12
34	15.00	35	13.50	$\frac{3}{16}$	4	$1\frac{1}{8}$	15
44	18.00	45	16.00	$\frac{1}{2}$	$4\frac{1}{2}$	$2\frac{1}{4}$	18

Hardware Type Iron Turnbuckles



Body, grey iron; eyes, steel.

No.	Plain Per Doz	No.	Udylite Pltd. Per Doz	Screw Size Inches	Length Closed Inches	Take Up Inches	Wt. Lb. Per Doz
53	\$2.30	54	\$2.70	$\frac{1}{4}$	$5\frac{1}{4}$	$2\frac{5}{8}$	2.2
63	2.90	64	3.40	$\frac{5}{16}$	6	3	3.8
73	4.40	74	5.00	$\frac{3}{8}$	$6\frac{1}{8}$	$3\frac{1}{2}$	6.0

Malleable Iron Turnbuckles



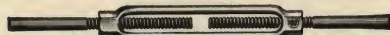
Malleable iron body; steel hooks and eyes.

Udylite plated finish.

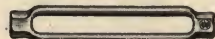
No.	Per Dozen	Screw Size Inches	Length Closed Inches	Take Up Inches	Weight Pounds per Dozen
57	\$4.80	$\frac{1}{4}$	$5\frac{1}{2}$	$2\frac{5}{8}$	2.5
67	5.40	$\frac{5}{16}$	$6\frac{1}{2}$	3	3.9
77	7.30	$\frac{3}{8}$	$7\frac{1}{2}$	$3\frac{1}{2}$	6.2

Drop-Forged Open Type Turnbuckles

With and Without Stub Ends



No. 307—With Right and Left Stub Ends



No. 3071—Without Stubs, Tapped Right and Left

Diam. Ends In.	EACH							
	LENGTH IN CLEAR INSIDE BODY, INCHES							
	4	4½	6	9	12	18	24	36
¼	\$.36							
5/16		\$.38						
3/8			\$.45					
1/2			.50	\$.75	\$.88			
5/8			.60	.90	1.05	\$ 1.50		
¾			.75	1.13	1.31	1.88	\$ 2.63	
7/8			.90		1.58	2.25	3.15	
1			1.10		1.93	2.75	3.85	\$ 4.40
1 1/8			1.40		2.45	3.50	4.90	5.60

Diam. Ends In.	EACH					
	LENGTH IN CLEAR INSIDE BODY, INCHES					
	6	12	18	24	36	48
$1\frac{1}{4}$	\$ 1.70	\$ 2.98	\$ 4.25	\$ 5.95	\$ 6.80	
$1\frac{3}{8}$	2.10					
$1\frac{1}{2}$	2.50	4.38	6.25	8.75	10.00	\$ 15.00
$1\frac{5}{8}$	3.25					
$1\frac{3}{4}$	4.00					
2	6.25					

Unless otherwise specified, 6-inch lengths will be sent except on $\frac{1}{4}$ and $\frac{5}{16}$ -inch sizes.

Weight of Stub End Turnbuckles with 6-Inch Bodies

Size In.	Wt. Lbs. Each	Size In.	Wt. Lbs. Each	Size In.	Wt. Lbs. Each
$\frac{3}{8}$	$\frac{3}{4}$	1	$6\frac{1}{4}$	$1\frac{5}{8}$	19
$\frac{1}{2}$	$1\frac{3}{8}$	$1\frac{1}{8}$	$7\frac{1}{2}$	$1\frac{3}{4}$	$23\frac{3}{8}$
$\frac{5}{8}$	$2\frac{1}{8}$	$1\frac{1}{4}$	$10\frac{1}{4}$	2	$30\frac{1}{8}$
$\frac{3}{4}$	$3\frac{1}{8}$	$1\frac{3}{8}$	$12\frac{3}{8}$		
$\frac{7}{8}$	$4\frac{3}{8}$	$1\frac{1}{2}$	$16\frac{3}{8}$		

Drop Forged Weldless Turnbuckles



No. 223, Hook and Hook



No. 225, Hook and Eye



No. 226, Eye and Eye



No. 227, Jaw and Eye



No. 228, Jaw and Jaw

Diameter and Takeup Inches	Eye & Eye Hook & Hook		Jaw & Eye		Jaw & Jaw	
	Galva- nized Each	Self- Colored Each	Galva- nized Each	Self- Colored Each	Galva- nized Each	Self- Colored Each
$\frac{3}{4}$ x 3	\$.40	\$.36				
$1\frac{1}{4}$ x 4	.40	.36	\$.50	\$.45	\$.60	\$.55
$\frac{5}{16}$ x $4\frac{1}{2}$	.50	.44	.62	.54	.74	.66
$\frac{3}{8}$ x 6	.60	.52	.74	.64	.88	.78
$1\frac{1}{2}$ x 6	.90	.80	1.10	.95	1.30	1.15
9	1.45	1.20	1.70	1.40	1.90	1.55
12	1.70	1.40	2.00	1.60	2.30	1.85
$\frac{5}{8}$ x 6	1.15	.95	1.30	1.10	1.50	1.25
9	1.75	1.45	2.00	1.70	2.30	1.90
12	2.10	1.70	2.40	2.00	2.70	2.20
18	2.60	2.20	3.10	2.60	3.50	2.90
$\frac{3}{4}$ x 6	1.50	1.25	1.75	1.45	2.00	1.65
*9	2.30	1.90	2.70	2.20	3.00	2.50
12	2.70	2.20	3.10	2.60	3.50	2.90
18	3.60	3.00	4.20	3.50	4.70	3.90
24	4.20	3.50	4.90	4.10	5.50	4.60
$\frac{7}{8}$ x 12	3.40	2.80	3.90	3.20	4.50	3.70
18	4.30	3.60	5.00	4.20	5.75	4.70
24	5.25	4.40	6.25	5.10	7.00	5.75
*1 x 12	4.20	3.50	4.80	4.00	5.50	4.60
18	5.50	4.50	6.50	5.25	7.25	6.00
24	6.75	5.50	8.00	6.50	8.75	7.25
36	8.50	7.00	10.00	8.25	11.50	9.25
$1\frac{1}{8}$ x 12	5.25	4.20				
18	6.75	5.50				
24	8.25	6.75				
36	10.50	8.50				
$1\frac{1}{4}$ x 12	7.25	6.00	9.00	7.50	11.00	9.00
18	9.00	7.50	11.00	9.00	13.00	10.50
24	11.50	9.50	13.00	11.00	15.00	12.50
36	16.00	13.00	17.00	14.00	18.00	15.00
$1\frac{1}{2}$ x 12	11.00	9.00	13.00	10.50	15.00	12.00
*18	13.50	11.00	15.75	13.00	18.00	15.00
24	17.00	14.00	20.00	16.50	23.00	19.00
36	22.00	18.00	26.00	21.00	30.00	24.00
48	28.00	23.00	33.00	27.00	38.00	30.00
$1\frac{3}{4}$ x 18	22.00	18.00	28.00	22.50	33.00	27.00
24	28.00	23.00	34.00	28.00	39.00	32.00
36	36.00	30.00	42.00	35.00	48.00	39.00
48	47.00	38.00	55.00	44.00	62.00	50.00
*2 x 24	42.00	35.00	50.00	41.00	58.00	47.00
36	50.00	40.00	59.00	48.00	68.00	55.00
48	62.00	50.00	74.00	60.00	85.00	70.00
$2\frac{1}{2}$ x 24	80.00	65.00	100.00	78.00	120.00	91.00
36	93.00	75.00	117.00	94.00	141.00	112.00
48	110.00	90.00	138.00	108.00	166.00	126.00

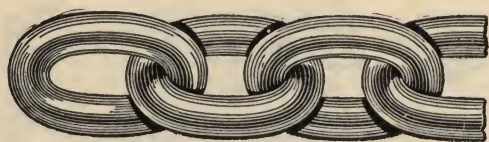
*Indicates the standard marine lengths.

Turnbuckle fittings are hot galvanized after threading. Self-colored threads only are furnished with $\frac{5}{16}$ -inch turnbuckles. Pin and cotters are fitted to jaw end fittings; Nos. 227 and 228, sizes $\frac{3}{4}$ -inch and larger.

For one locknut add 5%; for two locknuts add 10%.

Turnbuckles with hooks larger than $1\frac{1}{4}$ inch, not furnished.

Proof Coil Chain



Made from open-hearth basic steel, or iron, as desired.

Unless otherwise specified, steel chain, self-colored will be furnished.

Furnished in continuous lengths or in short sections.

If enlarged end links, shackles, hooks, rings, or other attachments are wanted, it should be clearly specified; otherwise chain will be supplied without attachments.

Size In.	Size Material In.	In-side Lgth. In.	In-side Width In.	Links per Foot	Average Breaking Test Lbs.	Proof Test Lbs.	Safe Working Load Lbs.	Wt., Lbs. per 100 Feet
3/16	7/32	61/64	13/32	121 1/2	2090	1045	520	40
1/4	9/32	1	1 1/2	12	3600	1800	900	70
5/16	11/32	1 1/8	1 1/2	10 3/4	5440	2720	1360	105
3/8	13/32	1 1/4	1 5/8	9 3/4	7440	3720	1860	158
7/16	15/32	1 3/8	1 3/4	8 3/4	10000	5000	2500	210
1/2	17/32	1 1/2	1 3/4	8	13200	6600	3300	265
5/8	19/32	1 3/4	1 7/8	6 7/8	16400	8200	4100	335
3/4	21/32	1 7/8	1 7/8	6 3/8	20000	10000	5000	410
7/8	23/32	2 1/8	1 3/4	5 5/8	28300	14150	7075	580
1	25/32	2 1/4	1 3/4	4 3/4	38400	19200	9600	780
1 1/8	27/32	2 3/8	1 3/4	4 3/8	49600	24800	12400	1000
1 1/4	29/32	2 1/2	1 3/4	3 7/8	62400	31200	15600	1270
1 1/2	31/32	2 3/4	1 3/4	3 3/4	76800	38400	19200	1560
1 3/4	33/32	2 7/8	1 3/4	3 1/2	92000	46000	23000	1860
2	35/32	3 1/8	1 3/4	2 7/8	108800	54400	27200	2200

Prices upon application.

Acco Sling Chains



Type S



Type C



Type D

Single Sling Chains

Double Sling Chain

For use in moving materials in foundries, machine shops, steel works, quarries, shipyards and similar places where safety is paramount and life and property are at stake. Sling Chains are made of either Ajax or HB wrought iron or Endwelder chain.

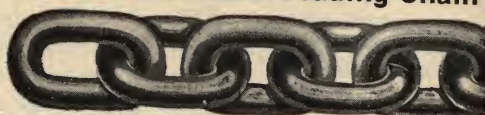
Sling Chains can be furnished all standard types and any special types. Send for copy of Standard Sling Chain Specifications Book and Wall Chart.

Type S can be furnished with pear-shaped link instead of ring and with grab hook instead of sling hooks, when so ordered.

Type D can be furnished with pear-shaped link instead of ring.

Prices upon application.

Fire-Welded Steel Loading Chain



Recommended for use by lumber men and oil field operators because of its high tensile strength and light weight. Made from hot rolled open hearth chain steel, fire-welded. Links are close and formed with long laps and swelled welds.

Furnished in bright finish except in sizes 5/8-inch and heavier which are blacked. Packed in continuous lengths in kegs or barrels.

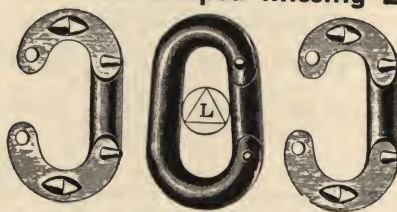
Size In.	Size Material In.	INSIDE DIMEN., IN. Length	Width	Links per Foot	Pull Sling Under Test, Lb.	Proof Test Lb.	Safe Working Load Lb.	Wt. Lb. per 100 Ft.
1/4	9/32	13/16	7/16	14 3/4	4500	2400	1200	90
5/32	10/32	7/8	1/2	13 3/4	5600	2950	1475	110
5/16	11/32	15/16	1/2	12 3/4	6800	3500	1750	130
3/8	13/32	1 1/8	5/8	10 3/4	9300	4900	2450	175
7/16	15/32	1 1/4	5/8	9 1/2	12000	6500	3250	230
1/2	17/32	1 1/2	3/4	8	15000	8500	4250	290
5/8	19/32	1 5/8	7/8	7 1/2	19100	10850	5425	360
3/4	21/32	1 3/4	1 1/8	6 1/4	23300	13250	6625	450
7/8	23/32	1 7/8	1 1/8	5 3/4	33700	19150	9575	650
1	25/32	2 1/16	1 1/2	5 1/4	44400	25250	12625	840
1 1/8	27/32	2 1/8	1 1/2	4 3/4	54500	31000	15500	1080

Safe Working Loads for Single and Double Sling Chains

Working loads for chains apply only when the chain is used in a vertical position. When a chain is used at any angle from the vertical, the safe working load is correspondingly lower. Lack of knowledge of this fact has been the cause of many chain-breaks. The figures in the table below are important and should be referred to often. Large copies will be supplied for shop posting, on request.

Size Inches	Safe Load for Single Branch Vertical	For Double Sling at Angle of 60°		For Double Sling at Angle of 45°		For Double Sling at Angle of 30°	
		60°	60°	45°	45°	30°	30°
3/8	2700	4700	3800	2700			
1/2	4500	7800	6350	4500			
5/8	6900	12000	9750	6900			
3/4	10100	17500	14000	10100			
7/8	14000	24000	19500	14000			
1	18600	32000	26000	18600			
1 1/4	28800	50000	40500	28800			
1 1/2	40800	70000	57500	40800			
1 3/4	52500	91000	74000	52500			
2	66600	115000	94000	66600			

No. 334 Pear-Shaped Missing Links



Drop forged from high grade steel.

*Size In.	PER DOZEN		INSIDE DIMENSIONS, INCHES			Estimated Weight Pounds per Dozen
	No. G-334 Galvanized	No. S-334 Self Colored	Width Small End	Width Large End	Length	
1/2	\$5.50	\$4.00	1 1/16	1	2 1/2	5
5/8	6.00	4.40	1 3/16	1 1/8	2 3/4	9 1/8
3/4	7.50	6.00	1	1 1/4	3 1/8	14 5/8
7/8	11.00	9.00	1 1/8	1 3/8	3 5/8	24 3/4

*Order by this dimension and give finish number.

Mild Steel Cold Shuts



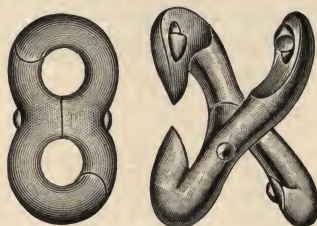
Style A

Can be furnished with shoulder or full end as desired.

Style A, with shoulder, will be furnished unless Style B, with full end, is specified when ordering.

No.	Chain Inches	Price per 100	No.	Chain Inches	Price per 100
615	1/4	\$4.25	621	3/4	\$24.30
616	5/16	4.50	622	7/8	44.00
617	3/8	5.00	623	1	64.00
618	7/16	5.50	904	1 1/8	100.00
619	1/2	7.25	905	1 1/4	140.00
620	5/8	12.10	...	...	.....

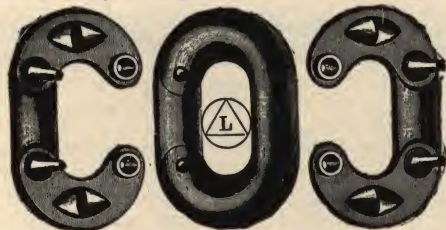
No. 338 Drop-Forged Steel Swing Links



Bronze rivets.

Size Inches	Galv.	PER DOZEN Self-Colored	Size Inches	Galv.	PER DOZEN Self-Colored
1/4	\$2.40	\$2.20	9/16	\$9.00	\$7.50
5/16	2.90	2.40	5/8	9.75	8.00
3/8	3.40	2.70	3/4	13.00	11.00
7/16	4.60	3.50	7/8	20.50	17.00
1/2	5.75	4.30	1	24.50	20.50

No. 335 Drop-Forged Steel Missing Links



The 1/16-inch size is packed 24 in a box; the 1/4 to 1-inch sizes, 12 in a box. Larger sizes furnished loose.

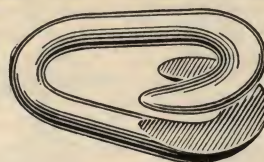
Self-colored links sent unless otherwise ordered.

Size Inches	Self-Colored Per Dozen	Galvanized Per Dozen	Over All Dimensions Inches	Breaking Strain of Proof Chain Tons	U.S. Government Tests Tons	Weight Pounds per Dozen
*3/16	\$1.15	\$1.50	1 1/16 x 2 5/32	1.1	1.2	3 3/8
*1/4	1.15	1.50	1 1/2 x 1	1.8	2.8	3 3/4
*5/16	1.20	1.65	1 11/16 x 1 5/32	2.2	4.2	1
3/8	1.50	2.00	2 1/16 x 1 3/8	3.7	5.6	2
7/16	1.80	2.40	2 11/32 x 1 17/32	5.	7.	3 1/8
1/2	2.00	2.90	2 21/32 x 1 23/32	6.6	8.	4 1/2
5/8	2.70	3.90	3 x 1 15/16	8.2	9.6	6 5/8
3/4	3.20	4.50	3 5/16 x 2 3/4	10.	11.5	9
1 1/8	4.10	5.50	3 3/8 x 2 11/32	12.	13.5	11
1 1/4	4.50	6.00	3 7/8 x 2 1/2	14.2	17.	14 1/4
1 1/2	6.75	9.25	4 1/2 x 2 15/16	19.2	19.2	20 1/4
1 3/4	11.00	14.00	5 x 3 3/8	24.2	26.5	29
1 7/8	13.50	16.50	5 5/8 x 3 3/4	31.2	35.	40
2	17.50	21.50	6 1/8 x 4 1/4	38.4	42.	53 1/2
2 1/8	24.50	27.00	6 3/4 x 4 5/8	46.	56.	75
2 1/2	30.00	34.00	7 1/4 x 5 1/8	54.	64.	103
2 3/4	37.00	41.00	8 x 5 1/2	.....	.....	131
3	59.00	92.00	9 7/8 x 6 1/2	.....	.....	216

*Have rivets only—no interlocking lugs.

†Have reinforced rivet holes. All sizes have rivet holes countersunk.

Repair Links End Open—Bright Finish



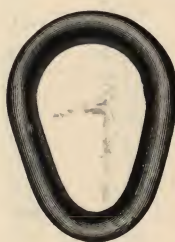
Size Inches	Per Gross	Inside Dimen. Inches	Wt. Lbs. per Gross	Size Inches	Per Gross	Inside Dimen. Inches	Wt. Lbs. per Gross
No. 10-3*	\$1.10	1 1/4 x 1 1/2	8	1/4 x 2	\$1.90	2 x 5/8	15
No. 10-2*	1.20	1 1/4 x 1 1/2	11	1/4 x 2 1/2	2.10	2 1/2 x 5/8	16
No. 10-1*	1.30	1 1/4 x 1 1/2	14	1/4 x 3	2.30	3 x 3/4	18
5/16 x 1 1/2	2.10	1 1/2 x 3/4	21	5/16 x 2	2.40	2 x 3/4	25
3/8 x 1 5/8	3.10	1 5/8 x 3/4	33	5/16 x 2 1/2	2.60	2 1/2 x 3/4	29
1/4 x 1 1/2	1.50	1 1/2 x 1/2	12	5/16 x 3	2.90	3 x 3/4	32

*No. 10-3, 1/32 inch; No. 10-2, 1/4 inch; No. 10-1, 1/2 inch.

No. 341 Drop-Forged Steel Sling Links

For Thimble or Chain

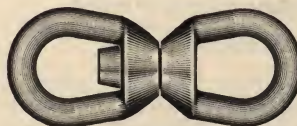
Drop-forged without welds.



Diam. Stock In.	Each Galv.	S.C.	Lgth. In.	Max. Inside Wdth. In.	For Chain In.	Wt. Lbs. per 100
1/4	\$.21	\$.20	2	7/8	1/8	8 1/3
5/16	.22	.20	2 1/4	1	3/16	12 1/2
3/8	.24	.22	2 1/2	1 1/4	1/4	23
7/16	.28	.26	2 3/4	1 1/2	5/16	35 1/2
1/2	.32	.30	3	1 5/8	3/8	50
5/8	.42	.40	3 3/8	2	1/2	108
3/4	.50	.46	4	2 1/4	9/16	160

No. 402 Drop-Forged Steel Swivels

Galvanized



Size In.	Each	Length Overall Inches	Width Inside Inches	Est. Wt. Each In Lbs.	Est. Ult. T.S. Tons
1/4	\$.75	3 1/4	1 1/16	3/16	2.5
5/16	.90	4 1/8	1 5/16	5/16	4.2
3/8	1.00	5 1/4	1 1/4	5/8	5.5
1/2	1.50	5 7/8	1 1/2	1 1/4	9.5
5/8	2.50	7 1/2	1 3/4	2 1/4	14.7
3/4	3.50	8 1/4	2	3 1/2	18.5
7/8	4.50	9 1/2	2 1/8	5 3/8	22.2
1	5.50	11 1/2	2 1/2	8 3/4	27.5
1 1/8	8.00	12 1/2	2 3/4	12	35
1 1/4	11.00	13 1/2	3	16	37.5

For self-colored finish, deduct 10 per cent.

Round Hooks



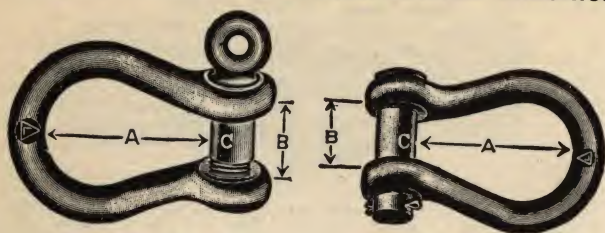
No.	For Chain Inches	Per 100
608	1/4	\$9.70
609	5/16	12.50
610	3/8	17.60
611	1/2	23.00
612	5/8	31.30
613	3/4	59.00

Grab Hooks



No.	Per 100	For Chain In.	No.	Per 100	For Chain In.
601	\$9.70	1/4	605	\$31.30	1 1/2
602	12.50	5/16	606	59.00	5/8
603	17.60	3/8	607	90.00	3/4
604	23.00	1/2	920	260.00	7/8

Laughlin Drop Forged Steel Anchor Shackles

Nos. G-209 and S-209,
Screw PinNos. G-213 and S-213,
Round Pin

Shackle pins are galvanized after threading.

Size Inches	Nos. G-209 or G-213 Galvanized Each	Nos. S-209 or S-213 Self-Colored Each	DIMENSIONS, INCHES			Weight Pounds per 100
			A	B	C	
*3/16	\$.28		7/8	3/8	1/4	5
1/4	.28	\$.25	1 1/8	1/2	5/16	12
5/16	.30	.28	1 1/4	9/16	3/8	18
3/8	.35	.33	1 1/2	1 1/16	7/16	30
7/16	.45	.40	1 3/4	1 1/16	1 1/2	49
1/2	.50	.45	2	7/8	5/8	74
5/8	.80	.70	2 3/8	1 1/16	3/4	144
3/4	.90	.75	2 7/8	1 1/4	7/8	216
7/8	1.40	1.10	3 1/4	1 3/8	1	337
1	1.80	1.45	3 5/8	1 1/2	1 1/8	526
1 1/8	2.60	2.10	4 1/4	1 7/8	1 1/4	703
1 1/4	3.20	2.60	4 3/4	1 7/8	1 3/8	955
1 3/8	4.40	3.60	5 1/4	2 1/4	1 1/2	1257
1 1/2	5.25	4.20	5 1/2	2 1/4	1 5/8	1725
1 3/4	10.00	8.00	7	2 7/8	2	2775
2	15.00	12.00	7 3/4	3 1/8	2 1/4	4112
2 1/4	40.00	34.00	9 1/4	3 3/4	2 1/2	5650
2 1/2	49.00	43.00	10 1/2	4 1/8	2 3/4	8350

*Furnished in No. G-209 only.

Vulcan Drop-Forged Hoist Hooks

With Eye—Weldless

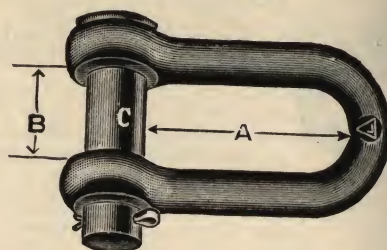


These hooks are specially heat-treated after forging to increase their strength and toughness, and to reduce the liability of breakage.

To insure proper service at listed capacity every hook, after heat treatment, is proof-tested to 50 per cent beyond its rated "Safe Working Load." Each hook so tested is stamped "O" near its piece number, shown in raised letters on the forging, and can be readily identified as proof-tested. For further identification each hook is orange tipped.

No.	Each	DIAM. OF EYE, IN.		Open- ing or Throat In.	EXTREME DIMEN- SIONS, IN.		Safe Work- ing Load Net Tons
		In- side	Out- side		Length	Width	
22	\$.36	3/4	1 1/2	1	4 3/8	2 7/8	.5
23	.43	7/8	1 3/4	1 1/16	4 7/8	3 1/8	.6
24	.53	1	2	1 1/8	5 3/8	3 1/2	.7
25	.73	1 1/8	2 1/4	1 1/4	6 3/16	3 7/8	1.2
26	1.05	1 1/4	2 1/2	1 3/8	6 7/8	4 3/8	1.7
27	1.50	1 3/8	2 3/4	1 1/2	7 5/8	4 7/8	2.1
28	2.10	1 1/2	3	1 3/4	8 9/16	5 5/8	2.5
29	2.85	1 5/8	3 1/4	1 7/8	9 9/16	6 3/8	3.
30	3.70	1 3/4	3 1/2	2 1/16	10 9/8	6 7/8	4.
31	4.70	2	4	2 1/4	11 1/2	7 1/2	4.7
32	6.40	2 3/8	4 5/8	2 1/2	13	8 1/4	5.5
33	9.40	2 3/4	5 1/4	3	14 3/4	9 1/4	6.8
34	18.50	3 1/8	6 1/8	3 3/8	16 3/4	11	8.
35	35.00	3 1/2	7	4	19 1/8	13 1/2	11.
36	86.00	4	8 1/2	4 1/2	22 3/4	15	20.
*36A	100.00	4	8 1/2	4 1/2	22 3/4	15	25.

*Made from alloy steel; others of carbon steel.

No. 215 Drop-Forged Steel Chain Shackles
Round Pin

Shackle pins are galvanized after threading.

Size Inches	Galva- nized Each	Self- Colored Each	DIMENSIONS, INCHES			Weight Pounds per 100
			A	B	C	
1/4	\$.28	\$.25	7/8	1/2	5/16	10 1/2
5/16	.30	.28	1	9/16	3/8	16 1/2
3/8	.35	.33	1 1/4	5/8	7/16	29
7/16	.45	.40	1 1/2	1 1/16	1 1/2	44
1/2	.50	.45	1 3/4	7/8	5/8	71
5/8	.80	.70	2 1/8	1	3/4	127
3/4	.90	.75	2 1/2	1 1/4	7/8	209
7/8	1.40	1.10	3	1 3/8	1	310
1	1.80	1.45	3 1/4	1 3/4	1 1/8	453
1 1/8	2.60	2.10	3 5/8	1 7/8	1 1/4	656
1 1/4	3.20	2.60	3 3/4	2	1 3/8	887
1 3/8	4.40	3.60	4 3/8	2 1/8	1 1/2	1204
1 1/2	5.25	4.20	4 3/4	2 1/4	1 5/8	1620
1 3/4	10.00	8.00	5 3/4	2 3/4	2	2500
2	15.00	12.00	6 3/4	3 1/4	2 1/4	3600
2 1/4	40.00	34.00	7 1/8	3 3/8	2 1/2	5000
2 1/2	49.00	43.00	8	4 1/8	2 3/4	7400

Also available in No. 210, screw pin.

Single Jack Chain



No. 16 Actual Size

Brass or steel.
Packed in cartons of 50 feet each and on reels containing 500 feet.

No.	Brass per 100 Feet	Steel per 100 Feet	No.	Brass per 100 Feet	Steel per 100 Feet
24	\$2.10	\$1.65	16	\$3.50	\$1.65
23	2.10	1.60	14	5.50	1.90
22	2.00	1.55	12	8.00	2.25
21	1.90	1.50	10	12.00	2.75
20	2.00	1.50	8	18.00	3.25
19	2.25	1.45	6	27.75	4.50
18	2.50	1.50	5	35.00	5.50

Double Jack Chain



No. 16 Actual Size

Brass or steel.
Packed in cartons of 50 feet each and on reels containing 500 feet.

No.	Brass per 100 Feet	Steel per 100 Feet	No.	Brass per 100 Feet	Steel per 100 Feet
24	\$2.50	\$1.85	18	\$3.25	\$1.65
23	2.50	1.80	16	4.50	1.85
22	2.25	1.75	14	7.00	2.10
21	2.25	1.70	12	11.00	2.50
20	2.50	1.65	10	16.75	3.25
19	2.75	1.60	..	.....	.....

Safety Plumbers' Chain



No. 000

Brass or steel. Packed in cartons of 50 feet each or on reels of 500 feet each.

No.	Brass per 100 Feet	Steel per 100 Feet	Gage Material Inches	WEIGHT, POUNDS PER 100 FEET	
				Brass	Steel
000	\$3.50	\$3.00	.015	1 1/4	1 1/8
00	4.00	3.00	.018	1 1/2	1 1/4
0	5.00	3.50	.023	2	1 3/4
1	6.25	4.00	.028	4	3 1/2
2	8.00	5.00	.028	4	3 1/2
3	10.00	6.00	.035	4 3/4	4 1/4
4	11.50	7.75	.035	5	4 3/4

Steel Sash Chains



No. 40, Actual Size

Made from cold rolled steel. On reels of 500 feet, except Nos. 65 and 60 which are on reels of 250 feet. No. 8 also put up in bags of 100 feet each with fixtures.

No.	Old No.	Plain Steel per 1000 Ft.	Coppered per 1000 Ft.	Sherardized per 1000 Ft.
65	XXXX	\$100.00	\$104.00	\$116.00
60	AA	80.00	83.00	92.00
50	A	45.00	47.00	52.00
45	A-30	43.00	45.00	50.00
40	1	34.00	36.00	39.00
35	2	29.00	31.00	33.00
30	0	26.00	28.00	29.00
25	00/042	25.50	27.50	28.50
8	00	19.75	20.00	22.25

Bronze and Nickel Silver Sash Chain



No. 35, Actual Size

Made from a special mixture. Used by the largest contractors and builders through the country. On reels of 500 feet, except Nos. 65 and 60 which are on reels of 250 feet. No. 8 also put up in bags of 100 feet each with fixtures.

No.	Old No.	Giant Metal per 1000 Ft.	Red Metal per 1000 Ft.	Nickel Silver per 1000 Ft.
65	XXXX	\$290.00	\$220.00	.....
60	AA	.....	180.00	.....
50	A	156.00	112.00	.....
45	A-30	146.00	106.00	.....
40	1	110.00	78.00	\$110.00
35	2	90.00	66.00	90.00
30	0	76.00	58.00	76.00
25	00/042	.....	62.00	.....
8	00	.....	56.00	.....

Steel Cable Chains



No. 30

No.	6	10	30	40	110
Number of Feet on a Reel	100	250	250	250	250
Shipping Weight per Reel	86	50	45	38	77
Price per foot	\$.36	.14	.12	.10	.18

Hoists

Many kinds of hoists are not illustrated in this catalogue. If you do not see the type you need, ask for up-to-date bulletins giving complete information.

Tenso Chain



Can be furnished polished steel or galvanized finish. Packed 250 ft. on reel, or in cartons containing 100 ft.

No.	Per 100 Feet	Gauge	Approx. Tensile Strength Lbs.	Approx. Wt., per 100 Feet Lbs.	No.	Per 100 Feet	Gauge	Approx. Tensile Strength Lbs.	Approx. Wt., per 100 Feet Lbs.
7	\$3.00	18	175	2 1/4	3-0	\$5.00	9	1280	20
6	3.00	17	200	2 3/4	4-0	6.00	8	1500	23
5	3.00	16	260	3 1/2	5-0	7.00	7	1850	26
4	3.00	15	320	4 1/2	6-0	8.00	6	2025	32
3	3.00	14	375	5 3/4	*6-0	8.50	6	2105	37
2	3.00	13	430	7 1/2	7-0	9.00	5	2520	41
1	3.25	12	785	10	8-0	11.00	4	2850	47
1-0	3.50	11	1000	13	9-0	13.00	3	3355	55
2-0	4.00	10	1205	17	10-0	15.00	2	4525	67

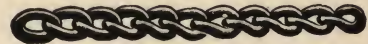
*Special.

Liberty Coil Chain—Twist Link



No.	Per 100 Feet	Gauge No.	Equivalent Inches	Links per Foot	Tensile Strength Pounds	Wt. per 100 Feet Pounds
4	\$4.25	11	1 1/8	11	710	10
3	4.25	10	9/16	10 1/2	830	13
2	4.25	9	5/8	10 1/2	950	16
1	4.50	8	3/4	10	1080	20
1/0	5.00	7	11/16	9 3/4	1240	24
2/0	5.25	6	3/4	9 3/4	1430	29
3/0	5.50	5	13/16	8 3/4	1670	33
4/0	6.25	..	7/8	8 3/4	1890	36
5/0	7.25	..	1 1/4	7 3/4	2530	48
6/0	9.75	..	5/8	7 3/4	3250	64
7/0	12.25	..	5/16	8	4050	84

Liberty Machine Chain



No.	W. & M. Gauge	Links per Foot	Wt., per 100 Feet Pounds	Price per 100 Feet
6-0	9-32	11 1/2	75	\$16.00
5-0	1-4	12	57	13.75
4-0	7-32	14	43	9.25
3-0	5	15	40	8.25
2-0	6	16 1/2	34	8.00
1-0	7	17 1/2	29	7.75
1	8	21	25	7.25
2	9	21	20	7.25
3	10	21 1/2	16	7.25

Bright Twist Link Truck Chain

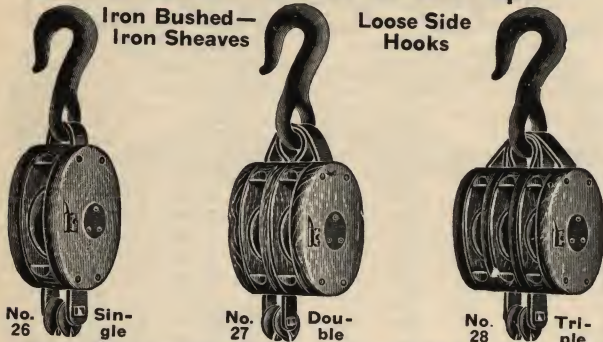


This chain is regularly furnished unhardened, but hardened chain is also available.

Packed 100 feet to a package, in barrel or keg.

No.	Per 100 Feet	Material Inches	Weight Pounds per 100 Ft.
5/0	\$13.75	1/4	57
6/0	16.00	5/32	75
7/0	20.00	3/16	94
8/0	24.00	1/8	115
9/0	26.00	3/8	143
10/0	31.00	13/32	175
11/0	36.30	7/16	200

Anvil Brand Regular Inside Iron Strapped Blocks for Manila Rope



Beckets are furnished in all single, one half double and one-third of the triple blocks without charge.

Shell In.	Size Sheave In.	Common, EACH			Self-Lubricating Bronze, Ea.		
		Single	Double	Triple	Single	Double	Triple
3	1 3/4 x 1 1/2 x 3/4	\$1.50	\$2.40	\$3.30	\$3.10	\$5.20	\$7.30
4	2 1/4 x 5/8 x 3/8	1.70	2.60	3.50	3.20	5.50	7.80
5	3 x 3/4 x 3/8	2.10	3.20	4.30	3.70	6.20	8.70
6	3 1/2 x 1 x 1/2	2.50	4.00	5.50	4.40	7.70	11.00
7	4 1/4 x 1 x 1/2	3.00	4.80	6.60	5.40	9.20	13.00
8	4 3/4 x 1 1/8 x 5/8	4.20	6.40	8.60	7.00	12.00	17.00
9	5 1/2 x 1 1/8 x 5/8	5.50	8.50	11.50	9.00	14.00	19.00
10	6 1/4 x 1 1/4 x 5/8	7.00	11.00	15.00	11.00	18.00	25.00
12	8 x 1 3/8 x 3/4	12.00	19.00	26.00	16.00	26.00	36.00

Anvil Brand Standard Steel Tackle Blocks

For Manila Rope

With Loose Side Hooks



No. 261, Single

No. 262, Double

No. 263, Triple

These blocks are lighter than wood blocks and equally strong. There is no danger of shells splitting. Shells have rounded edges to protect rope.

For Lgth. Shell In.	Diam. In.	Common Iron Bushed			Patent Roller Bushed			Self-Lubricating Bronze Bushed		
		Single	Double	Triple	Single	Double	Triple	Single	Double	Triple
3	3/8	\$1.20	\$1.90	\$2.60	\$1.80	\$2.90	\$4.00	\$2.80	\$4.70	\$6.60
4	1/2	1.30	2.10	2.90	1.90	3.20	4.50	2.90	5.00	7.10
5	5/8	1.50	2.40	3.30	2.20	3.70	5.20	3.10	5.40	7.70
6	3/4	1.70	3.00	4.30	2.60	4.70	6.80	3.60	6.70	9.80
7	7/8	2.40	4.00	5.60	3.40	5.80	8.20	4.80	8.40	12.00
8	1	3.20	5.40	7.60	4.60	7.80	11.00	6.00	11.00	16.00
9	1	4.40	7.20	10.00	5.90	9.70	13.50	8.00	13.00	18.00
10	1 1/8	6.20	9.60	13.00	8.00	12.50	17.00	10.00	16.50	23.00
12	1 1/4	11.00	17.00	23.00	13.00	20.00	27.00	15.00	24.00	33.00

No. 385 Anvil Brand Drop Link Wood Shell Snatch Blocks

Iron Bushed—For Manila Rope—Flattened Swivel Hook



Size Sheave In.	Common Bushed Each	Patent Bushed Each	Bronze Bushed Each	Diam. Rope In.	Lgth. Shell In.	Wt. Lb.
3 x 1 1/8 x 1/2	\$6.50	\$7.50	\$8.50	3/8	6	7
3 1/2 x 1 1/4 x 1/2	8.00	9.00	10.00	7/8	7	8
4 1/2 x 1 3/8 x 5/8	9.00	11.00	12.00	1	8	13
5 x 1 3/8 x 5/8	13.00	15.00	16.00	1 1/8	9	15
5 3/4 x 1 7/8 x 3/4	15.00	17.00	19.00	1 1/4	10	25
6 3/4 x 2 1/8 x 3/4	21.00	25.00	27.00	1 1/2	12	34
8 x 2 1/4 x 7/8	31.00	37.00	38.00	1 3/4	14	46
9 x 2 5/8 x 1	43.00	52.00	52.00	2	16	68
10 x 3 x 1 1/8	80.00	90.00	90.00	2 1/4	18	100

No. 390 Anvil Brand Drop Link Steel Shell Snatch Blocks

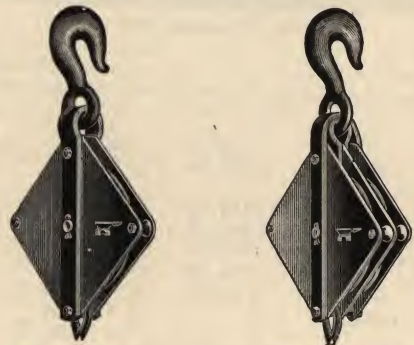
Iron Bushed—For Manila Rope—Flattened Swivel Hook



Size Sheave In.	Common Bushed Each	Patent Bushed Each	Bronze Bushed Each	Diam. Rope In.	Lgth. Shell In.	Wt. Lb.
3 x 1 1/8 x 1/2	\$6.50	\$7.50	\$8.50	3/8	6	7
3 1/2 x 1 1/4 x 1/2	8.00	9.00	10.00	7/8	7	8
4 1/2 x 1 3/8 x 5/8	9.00	11.00	12.00	1	8	13
5 x 1 3/8 x 5/8	13.00	15.00	16.00	1 1/8	9	15
5 3/4 x 1 7/8 x 3/4	15.00	17.00	19.00	1 1/4	10	25
6 3/4 x 2 1/8 x 3/4	21.00	25.00	27.00	1 1/2	12	34
8 x 2 1/4 x 7/8	31.00	37.00	38.00	1 3/4	14	46
9 x 2 5/8 x 1	43.00	52.00	52.00	2	16	68
10 x 3 x 1 1/8	80.00	90.00	90.00	2 1/4	18	100

Anvil Brand Regular Diamond Pattern Wire Rope Blocks

With Loose Side Hooks



No. 646 Single

No. 647, Double

Iron Bushed

Size Sheave In.	Diam. Rope In.	No. 646-C Single		No. 647-C Double		No. 648-C Triple	
		Each	Wt. Lb.	Each	Wt. Lb.	Each	Wt. Lb.
6x1 x 3/4	3/8	\$10.00	13	\$17.00	19	\$24.00	22
8x1 1/4 x 7/8	1/2	14.00	22	21.00	36	28.00	45
10x1 1/4 x 7/8	5/8	19.00	30	29.00	51	39.00	68
12x1 1/2 x 1	5/8	28.00	50	43.00	82	58.00	106
14x1 1/2 x 1 1/8	3/4	38.00	68	57.00	110	76.00	152

Bronze Bushed Self-Lubricating

Size Sheave In.	Diam. Rope In.	No. 646-B Single		No. 647-B Double		No. 648-B Triple	
		Each	Wt. Lb.	Each	Wt. Lb.	Each	Wt. Lb.
6x1 x 3/4	3/8	\$12.00	13	\$21.00	16	\$30.00	22
8x1 1/4 x 7/8	1/2	16.00	22	25.00	36	34.00	45
10x1 1/4 x 7/8	5/8	21.00	30	33.00	50	45.00	68
12x1 1/2 x 1	5/8	30.00	50	47.00	80	64.00	106
14x1 1/2 x 1 1/8	3/4	40.00	68	61.00	110	82.00	152

Ford Screw Chain Hoists

The Ford Screw Chain Hoist has bronze worm wheel contained in oil-tight housing and equipped with the best quality of chain and drop-forged steel hooks.

This type of hoist is frequently preferred for portable use, as it is light in weight and at the same time powerful and durable.

The hoist is equipped with a new load chain guide which is a great improvement over the old style guide as it prevents the load chain from becoming foul of the load sheave and guides the load chain through the pockets of the sheave at all times.

This block is also equipped with a patented loop hand chain guide and new style detachable lower hook shackle which makes it convenient in replacing old chains with new as it eliminates the danger of improper welds.

The efficiency of this hoist is 40 per cent, which is the highest obtainable in a worm gear type hoist.

Capacity Tons	Regular Lift Each	Extra Lift Per Foot	Regular Lift Feet	Minimum Distance Between Hooks Inches	Shipping Weight Pounds
1/2	\$50.00	\$2.50	8	13	60
1	60.00	2.60	8	16	85
1 1/2	80.00	2.70	8	19	110
2	100.00	2.80	9	21	150
3	150.00	3.00	10	25	225
4	190.00	3.80	10	29	265
5	280.00	4.00	12	31	418
6	360.00	5.60	12	33	397
8	420.00	6.00	12	36	465
10	550.00	6.40	12	45	650

Weston Differential Chain Hoists

A simple chain block for general use about garages, stores, small shops and farms.

Light and easily carried from place to place.

Holds the load at any point and cannot lower it until the operator pulls the chain back.

The chain is an accurate fitting steel chain. The wheels are large, smoothly cast, semi-steel that mesh perfectly with the chain.

The hooks are heat treated, drop forged. The parts throughout are carefully machined and of pleasing design.

Every hoist is thoroughly tested before being shipped.

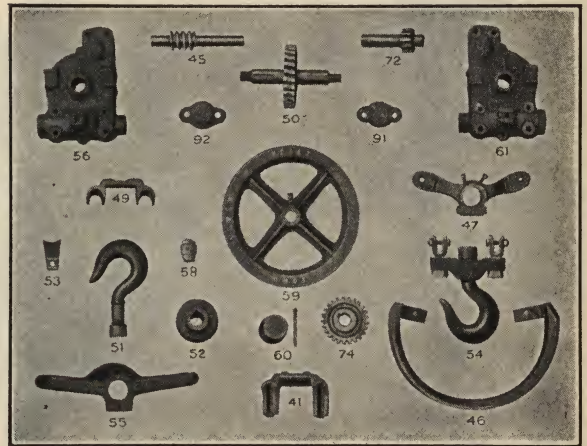
Capacity Tons	Regular Lift Feet	Minimum Distance Between Hooks, In.	CHAIN PULL Pounds	Shipping Weight Pounds	Hoist Complete Price Each	Extra Lift Price per Ft.
1/4	6	17	72	18	\$36.00	\$4.80
1/2	7	21	122	24	42.00	4.80
1	8	26	216	30	56.00	5.00
1 1/2	8 1/2	32	246	36	72.00	5.40
2	9	39	308	42	90.00	5.60
3	10	44	557	38	120.00	6.00

Repair Parts

Name of Part	PRICE, EACH CAPACITY, TONS					
	1/4	1/2	1	1 1/2	2	3
Top Yoke and Hook	\$5.00	\$6.00	\$8.50	\$11.00	\$15.00	\$22.00
“ Sheave	6.25	8.00	12.00	16.80	24.00	31.20
Bottom Sheave	1.80	2.40	3.00	3.80	5.00	7.50
“ Yoke and Hook..	4.00	5.00	7.00	9.00	12.00	16.00
Top Sheave Pin....	.80	1.00	1.00	1.20	1.20	1.40
Bottom Sheave Pin.	.60	.80	.80	1.00	1.00	1.20
Regular Chain.....	26.40	31.20	37.50	44.55	50.40	57.00

Ford Screw Hoist Parts

1/2 to 5 Tons



No.	Description	CAPACITY, TONS			
		1/2	1	1 1/2	2
41	Load Chain Guide...each	\$3.85	\$1.00	\$1.70	\$2.15
45	Worm and Shaft....each	4.30	5.70	8.55	10.00
46	*Improved Hand Chain				
47	Guide and Bracket...each	7.00	8.00	11.25	13.25
49	Load Chain Guard....each	1.20	1.45	2.15	2.50
50	Worm Wheel.....each	7.15	8.55	12.15	17.15
51	Top Hook and Nut...each	1.80	2.85	4.30	6.45
52	Load Sheave.....per pair	2.85	3.95	5.70	6.45
53	Strippers.....per pair	.45	.55	.85	1.10
54	Bottom Hook Swivel and Eye Bolts.....per set	3.60	5.00	6.45	8.55
55	Hand Chain Guide...each	2.50	2.85	4.30	5.70
56	Housing.....per pair	9.30	11.45	17.15	21.45
58	Friction Plug.....each	1.45	2.15	2.85	3.60
59	Hand Wheel.....each	3.20	3.95	5.70	6.80
60	Friction Plug Cover...each	.70	.70	1.10	1.45
72	Pinion Shaft.....each	.....	.....	.....	.....
74	Gear.....each	.....	.....	.....	.....
91	Friction Plug Cover...each	.....	.....	.....	.....
92	Friction Plug.....each	.....	.....	.....	.....
..	Load Chain Steel...per foot	.75	.80	.85	.90
..	Hand Chain Steel...per foot	.50	.50	.50	.50

No.	Description	CAPACITY, TONS		
		3	4	5
41	Load Chain Guide...each	\$2.50	\$2.85	\$4.30
45	Worm and Shaft....each	12.85	14.30	17.15
46	*Improved Hand Chain			
47	Guide and Bracket...each	13.25	15.25	15.25
49	Load Chain Guard....each	2.85	3.20	4.30
50	Worm Wheel.....each	24.30	28.60	42.85
51	Top Hook and Nut...each	10.70	14.30	21.45
52	Load Sheave.....per pair	8.55	10.70	14.30
53	Strippers.....per pair	1.80	2.15	2.85
54	Bottom Hook Swivel and Eye Bolts.....per set	14.30	20.00	28.60
55	Hand Chain Guide...each	6.45	7.85	7.85
56	Housing.....per pair	30.00	42.85	85.70
58	Friction Plug.....each	.....	.....	.....
59	Hand Wheel.....each	7.85	11.45	12.85
60	Friction Plug Cover...each	.....	.....	.....
72	Pinion Shaft.....each	5.70	6.45	10.00
74	Gear.....each	6.00	6.80	7.50
91	Friction Plug Cover...each	.70	.70	.70
92	Friction Plug.....each	4.30	4.30	5.70
..	Load Chain Steel...per foot	1.00	1.10	1.20
..	Hand Chain Steel...per foot	.50	.80	.80

*Either part furnished at half list shown above. Unless specified on order both Nos. 46 and 47 will be furnished.

Ford Tribloc Model BB and Model P Chain Hoists



1/4 to 3 Ton

Features

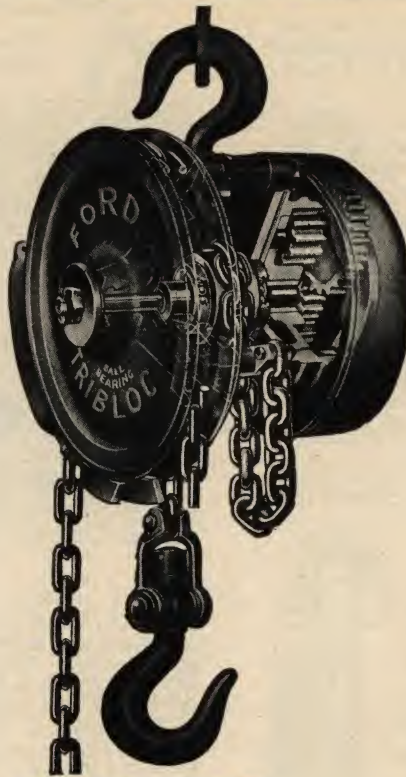
Fast, powerful, durable hoists. Model P differs from Model BB principally in the omission of ball bearings in the load sheave.

Precision ball bearings run in hardened and ground alloy steel races having oil seal, support load wheel of hoist in Model BB, also idler wheels of high capacity units in both models.

Ball sealed oil fittings for excluding dirt are provided for oil ducts. Hooks with roller bearings are drop forged from special steel and heat treated.

Ball bearing load wheels of certified malleable iron with pockets accurately pitched to chain insure high efficiency and low chain wear. Pinion cage, ratchet case, and internal gear are cast from certified malleable iron.

Load chain couplings are drop forged and can be conveniently attached and detached by means of a special drop forged elongated bolt.



Sectional View of Model BB



5 and 6 Ton

Oil-less bronze bushings in load wheel support driving pinion and are used in gear and pinion bearings.

Load suspension members of working head incorporate a minimum full capacity safety factor of 5 to 1.

Automatic load brake of Weston type holds load at any position and requires pull on hand chain guide.

Continuous hand chain guide.

Drop forged bottom and top hook assemblies allow both rocking and swiveling.

Driving pinion is one piece drop forging, alloy steel, heat treated. Pawl has file-hard tip which reduces wear.

Load chain is electrically welded, high carbon steel, heat treated. Gear cover is heavy pressed steel, grease tight to retain lubricant.

Timken thrust bearings support bottom hook to ease swiveling. Load chain guard allows operation of hoist in any position.

Each one is tested to 1½ times its rated capacity on the long ton basis; all parts receive careful inspection.

Cap. Tons	Complete with Regular Lift Each	†Extra Lift per Foot	Regular Lift Feet	1/4 to 3 Tons		Chain Handled to Lift Load 1 Foot Feet	LENGTH, REGULAR CHAIN, FEET		Ship. Wt. Lb.
				Minimum Distance Between Hooks Inches	Chain Pull to Lift Full Load Lb.		Load	Hand	
*350 Lb.	\$60.00	\$1.80							
1/4	70.00	1.80	8	12	54	6 1/2	9	16	69
* 1/2	70.00	1.80	8	12 5/8	49	12	9	16	69
1	90.00	1.90	8	12 5/8	57	21	9	16	69
1 1/2	120.00	2.00	8	16 3/8	73	31	9	16	107
2	140.00	2.10	9	18 1/2	103	35	9	16	150
†3	180.00	2.60	10	21	106	43	10	18	210
				22 3/16	99	78	11	22	259
				3 and 4 Tons					
\$3	\$180.00	\$3.00	10	25 1/16	104	70	24	22	209
4	220.00	3.20	10	29 1/2	110	86	25	24	307
				5 and 6 Tons					
5	\$280.00	\$4.30	12	35 3/8	94	129	44	29	383
6	330.00	4.30	12	35 3/8	112	129	44	29	383
5D	280.00	4.20	12	32 3/4	85	154	27	29	373
6D	330.00	4.20	12	32 3/4	103	154	27	29	373
				8 Tons					
8	\$400.00	\$5.40	12	37 3/8	114	172	58	30	507
				10 Tons					
10	\$480.00	\$6.50	12	50 3/4	117	215	72	30	623
				12 to 20 Tons					
12	\$600.00	\$8.60	12	52 1/4	112	129	93	30	972
16	720.00	10.80	12	52 5/8	114	173	117	30	1180
20	850.00	13.00	12	55 1/16	117	216	146	30	1345

*Model BB only.

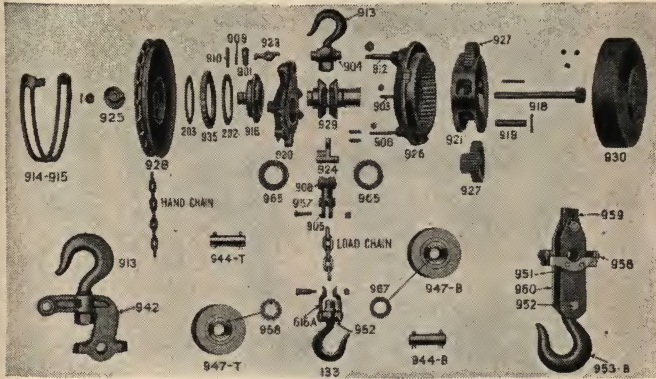
*Can also be supplied 1/2 ton special Quick Speed Tribloc for \$90.00. This is the same as the 1 ton regular except the gears are changed to double the speed at half the load.

†Single Chain. §Double chain. ||For each chain.

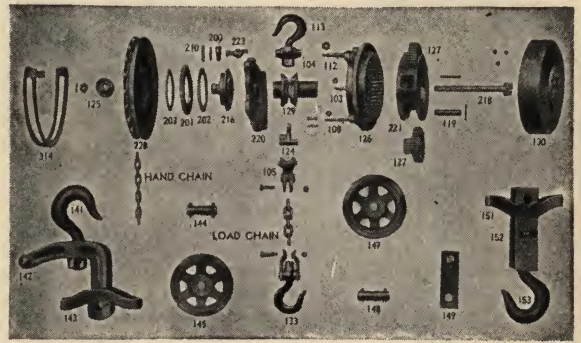
¶Two chains.

‡Price for extra lift includes both load and hand chain.

Ford Tribloc Chain Hoist Parts For Model BB and Model P Chain Hoists



Model BB



Model P

PARTS NO.		Description	EACH—CAPACITY, TONS—													
Model BB	Model P		1/4 and 1/2	1	1 1/2	2	3 Single Chain	3 Double Chain	4	5	6	8	10	12	16	20
*901	200	Pawl Stud.....	\$.50	\$.75	\$.90	\$.95	\$.95	\$.90	\$.95	\$.95	\$.95	\$.95	\$.95	\$.95	\$.95	\$.95
903	103	Small Separator Stud.....	.60	.75	.90	1.10	1.10	.90	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
904	104	Top Hook Cross Head.....	1.10	1.60	2.35	2.95	3.60									
908	108	Load Chain Guide Bolt.....	.30	.55	.60	.75	.75	.60	.75	.75	.75	.75	.75	.75	.75	.75
*910	210	Pawl Spring.....	.15	.25	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30
912	112	Large Separator Stud.....	.95	1.10	1.35	1.45	1.45	1.35	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45
*913	113	Top Hook.....	1.85	2.95	3.65	4.40	8.80									
914-15	314	Hand Chain Guides.....	4.40	5.15	7.35	8.80	8.80	7.35	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80
916	216	Disc Hub.....	3.50	4.40	6.60	8.10	8.10	6.60	8.10	8.10	8.10	8.10	8.10	8.10	8.10	8.10
918	218	Driving Pinion.....	4.40	5.15	7.35	8.80	8.80	7.35	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80
919	119	Gear and Pinion Studs.....	.65	.90	1.10	1.35	1.35	1.10	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35
919S	119S	Gear and Pinion Studs.....					1.35									
920	220	Ratchet Case.....	4.40	6.60	8.80	9.55	9.55	8.80	9.55	9.55	9.55	9.55	9.55	9.55	9.55	9.55
921	221	Pinion Cage.....	3.65	5.15	7.35	9.55	12.00	7.35	9.55	9.55	9.55	9.55	9.55	9.55	9.55	9.55
*923	223	Pawl.....	.60	.75	.90	.90	.90	.90	.90	.90	.90	.90	.90	.90	.90	.90
924	124	Stripper.....	.50	.50	.75	.90	.90	.75	.90	.90	.90	.90	.90	.90	.90	.90
925	125	Check Washer.....	.65	.90	1.10	1.25	1.25	1.10	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
926	126	Internal Gear.....	7.35	8.80	12.50	14.00	14.00	12.50	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
927	127	Gear and Pinion.....each	2.60	3.30	4.40	5.90	5.90	4.40	5.90	5.90	5.90	5.90	5.90	5.90	5.90	5.90
927S	127S	Gear and Pinion.....each					5.90									
928	228	Hand Wheel.....	4.40	5.15	7.35	8.80	8.80	7.35	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80
929	129	Load Sheave.....	7.35	8.80	13.25	14.70	18.00	13.25	14.70	14.70	14.70	14.70	14.70	14.70	14.70	14.70
930	130	Gear Cover.....	2.20	3.30	5.15	5.90	7.00	5.15	5.90	5.90	5.90	5.90	5.90	5.90	5.90	5.90
*203	203	Galvanized Disc.....	.30	.45	.60	.75	.75	.60	.75	.75	.75	.75	.75	.75	.75	.75
*133	†133	Lower Hook Assembly with Swivel Hook.....	3.65	5.50	6.60	8.80	12.00									
*202	202	Leather Disc.....	.95	1.10	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45
*935	201	Ratchet Disc.....	1.50	2.00	2.60	2.95	2.95	2.60	2.95	2.95	2.95	2.95	2.95	2.95	2.95	2.95
*937	.....	Hand Chain.....per foot	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50
.....	.....	Hand Chain, complete	8.00	8.00	8.00	9.00	11.00	11.00	12.00	14.00	14.00	14.00	15.00	15.00	15.00	15.00
*938	.....	Load Chain.....per foot	.80	.90	1.00	1.10	1.60	1.00	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
.....	.....	Load Chain, complete without Hook.....	7.20	8.10	9.00	11.00	17.60	24.00	27.50	48.40	48.40	63.80	79.20	102.30	128.70	160.60
*939	.....	Bearing for Lower Swivel Hook.....	.55	.80	1.00	1.00	1.20	1.20	2.00	2.80						
913	141	Top Hook.....						8.80	13.25	17.65	26.50	36.75	51.50	55.15	73.50	161.80
942	142	Top Yoke.....						20.60	30.90	36.75	44.10	58.80	88.25	95.60	103.00	110.30
943	143	Top Guard and Guides.....							10.30	14.70	17.65	22.00	23.50	25.00	26.50	
944	144-8	Top or Bottom Pin.....ea.						1.45	1.85	1.85	3.65	4.40	5.15	5.15	6.60	8.80
947	145-7	Top or Bottom Sheave.....each						5.90	6.60	6.60	6.80	6.60	8.80	8.80	8.80	8.80
958	151	Bottom Guard and Guides.....						8.10	11.00	11.00	14.70	17.65	22.00	23.50	25.00	29.40
*952	152	Bottom Side Plates and Cross Head....						7.35	10.30	14.00	23.50	29.40	36.75	36.75	39.70	42.56
*960	153	Bottom Hook.....						8.80	13.25	17.65	26.50	36.75	51.50	55.15	73.50	161.80
905	105	Load Chain Guide and Bolt.....	1.10	1.45	2.20	2.55	3.00	2.20	2.55	2.55	2.55	2.55	2.55	2.55	2.55	2.55
957	149	Detachable Load Chain Coupling.....								3.00	3.00	3.00	3.20	4.00	4.00	4.00
965	.....	Load Wheel Brg.....ea.	2.20	2.75	3.50	5.50	8.00	3.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
966	.....	Oil Retainer.....	On Request													
967	.....	Brgs. for Bottom Block.....each	On Request													
968	.....	Brgs. for Top Block.....each	On Request													

*These parts are interchangeable with Model P Tribloc.

†Includes parts 616-A and 952.

Coffing Quik-Lift Electric Hoists



With Hook Suspension



With Trolley Suspension

Heavy duty motor, fully enclosed, ball bearing, high starting torque. Can be plugged into any a.c. or d.c. circuit. Fool-proof safety limit switches automatically stop operation of hoist. Standard lift is 8 feet.

Hoist with trolley suspension has Hyatt roller bearings. Hoist is furnished with lubri-seal ball bearings throughout. Gears and pinions are made of special alloy steel, heat-treated, cut teeth. Gear system is sealed and running in oil. Hooks are made of drop-forged alloy steel, heat-treated to stand 200 per cent over rated capacity.

Extra heavy load chain is made of special alloy steel. Will not kink or bend. Sheave is extra heavy steel casting.

Sensitive pendant rope control permits load to be raised or lowered a fractional part of an inch.

When ordering, state voltage, phase and cycle, lifting speed, and whether for a.c. or d.c.

Model J

110 V., 1 Phase, 60 Cycle or 220-440 V., 3 Phase, 60 Cycles

No.	With Hook Suspension Each	With Trolley Suspension Each	Extra Chain per Foot	Capacity Pounds	Lifting Speed In Feet Per Min.	Motor Hp.	Shortest Distance Between Hooks Inches	Wt. Pounds
J-250-44	\$150.00	\$163.00	\$.70	250	44	1/8	15 1/2	89
J-500-22	150.00	163.00	.70	500	22	1/8	15 1/2	89
J-500-33	165.00	178.00	.70	500	33	1/2	15 1/2	99
J-500-49	180.00	193.00	.70	500	49	3/4	15 1/2	126
J-750-13	150.00	163.00	.70	750	13	1/8	15 1/2	89
J-750-22	165.00	178.00	.70	750	22	1/2	15 1/2	99
J-750-33	180.00	193.00	.70	750	33	3/4	15 1/2	126
J-1000-11	150.00	164.00	.70	1000	11	1/8	15 1/2	95
J-1000-17	165.00	179.00	.70	1000	17	1/2	15 1/2	115
J-1000-24	180.00	194.00	.70	1000	24	3/4	15 1/2	135
J-1500-8	159.50	177.00	.90	1500	8	1/8	17 1/2	95
J-1500-11	174.50	192.00	.90	1500	11	1/2	17 1/2	115
J-1500-17	200.00	217.50	.90	1500	17	3/4	17 1/2	135
J-2000-5 1/2	159.50	177.00	.90	2000	5 1/2	1/8	17 1/2	95
J-2000-8	174.50	192.00	.90	2000	8	1/2	17 1/2	115
J-2000-12	200.00	217.50	.90	2000	12	3/4	17 1/2	135
JD-3000-4	185.00	212.50	1.80	3000	4	1/8	22	135
JD-3000-5 1/2	200.00	227.50	1.80	3000	5 1/2	1/2	22	145
JD-3000-8 1/2	215.00	242.50	1.80	3000	8 1/2	3/4	22	155
JD-4000-2 3/4	185.00	212.50	1.80	4000	2 3/4	1/8	22	131
JD-4000-4	200.00	227.50	1.80	4000	4	1/2	22	155
JD-4000-6	215.00	242.50	1.80	4000	6	3/4	22	180

Model S

220 or 440 V., 3-Phase, 60 Cycles

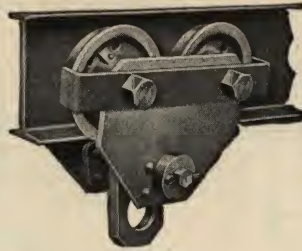
No.	With Hook Suspension Each	With Trolley Suspension Each	Extra Chain per Foot	Capacity Pounds	Lifting Speed In Feet Per Min.	Motor Hp.	Shortest Distance Between Hooks Inches	Wt. Pounds
S-1000-36	\$250.00	\$264.00	\$.90	1000	36	1	18	165
S-1300-28	250.00	264.00	.90	1300	28	1	18	165
S-2000-36	300.00	325.00	.90	2000	36	2	18	210
S-2000-18	250.00	267.50	.90	2000	18	1	18	165
SD-2600-14	275.00	302.50	1.80	2600	14	1	23	175
SD-4000-9	275.00	302.50	1.80	4000	9	1	23	175
SD-4000-18	325.00	350.00	1.80	4000	18	2	23	225

Extra Drop Cord.....per foot \$.20

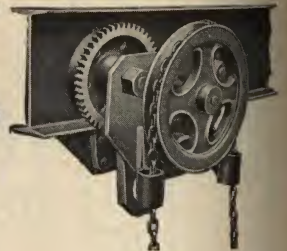
The letter D signifies that hoist has a double chain.

Motor Specifications, other than above, furnished on application.

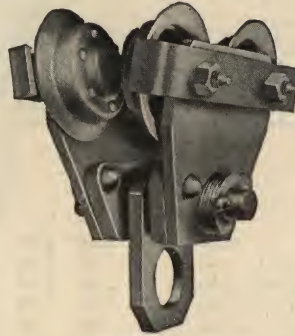
Coffing I-Beam or Hoist Trolleys



Plain



Geared



Ball Bearing

Plain.—Can be furnished with either plain bearings or Hyatt roller bearings.

For capacities over three tons Hyatt bearings are recommended. Guards are furnished only on trolleys up to and including two tons capacity.

Geared.—Equipped with Hyatt bearings only. All gearing is machine cut from solid blanks and hand chain is kept in proper position at all times by the use of suitable chain guide.

Trolleys of geared type are recommended on capacities over five tons or when accurate spotting of loads is necessary.

Ball Bearing.—A self-aligning trolley made in 1-ton capacity only. Pressed steel wheels with hardened treads with encased ball bearings.

Can be furnished with or without guards and Zerk oilers.

Specifications

Cap. Tons	Net Wt. Plain	Gr. Wt. Geared	Adjustable for I-Beam Inches	Std. Size I-Beams In. & Lb.	Greatest Distance Between Supports Feet	Smallest Radius for Curves Inches	Drop Hand Chain Below Beam, Geared Trolley
1/4	25	...	4, 5, 6, 7	5-10	13	18	...
1/2	25	...	4, 5, 6, 7	5-10	13	18	...
*1BB	21	...	4, 5, 6, 7	5-10	10	20	...
1	46	65	5, 6, 7, 8	6-12.5	14	21	8'-8"
1 1/2	70	90	6, 7, 8, 9	8-18.4	15	36	10'-5"
2	75	100	6, 7, 8, 9	8-18.4	15	36	10'-5"
3	120	160	8, 9, 10, 12	9-21.8	15	42	12'-3"
4	190	240	10, 12, 15	10-25.4	15	48	12'-6"
5	250	290	12, 15, 18	12-31.8	17	54	15'-3"
6	270	330	12, 15, 18	15-42.9	21	60	15'-6"
8	480	540	18, 20, 24	20-65.4	28	63	16'-3"
10	525	700	20, 24	24-79.9	28	66	16'-9"

Prices

PLAIN TROLLEYS			BALL BEARING TROLLEYS	
Cap. Tons	Hyatt Roller Bearing Each	Plain Bearing Each	With Guards and Zerk Oilers Each	Without Guards and Zerk Oilers Each
1/4	\$13.00	\$8.70	.....	.....
1/2	14.00	9.50	.....	.....
1	17.50	14.60	\$36.00	\$10.50
1 1/2	21.50	19.50	38.00	.....
2	27.50	22.00	44.00	.....
3	34.00	29.00	58.00	.....
4	45.00	39.00	70.00	.....
5	55.00	50.00	80.00	.....
6	72.00	64.00	100.00	.....
8	110.00	85.00	140.00	.....
10	125.00	100.00	170.00	.....

*One-ton special ball bearing trolley.

If trolleys are required for larger standard I-beams than listed, a slight extra charge is made.

Coffing's Safety-Pull Ratchet Lever Hoists



Hoist is equipped with a dual ratchet and pawl assembly, independent of each other, and the handle is always under control. (Cannot slip or drop load.)

The Safety-Pull has the free chain feature. That is when there is no load on hoist a slight pressure on thumb latch allows load chain to be pulled through the hoist, either up or down, without operating the handle.

Reversible handle permits operating hoist in any position, horizontally, vertically or from either side of the hoist.

Handle will bend at maximum overload before chain will break or hooks will straighten out. Handle is made of certified malleable iron.

Safety stops prevent handle from spinning in case operator's hand should slip off handle.

Specially designed hooks are made of drop-forged, heat-treated alloy steel.

Cadmium plated roller chain is standard on all models.

The hoist frame is made of certified malleable iron.

Sprocket and ratchet are made of special alloy drop-forged steel, heat treated and ground.

Reversing mechanism, bearing pins, etc., are made of heat-treated alloy steel to meet their special functions.

Hoists are factory tested at 100% over rated capacity.

Model	Each	Extra Lift per Ft.	Rated Cap. Ton	Lb. on Lever to Lift Rated Cap.	Stand. Lift In.	Min. Dis. between Hooks In.	Lift Speed per Min. In.	Net Wt. Lb.
*A	\$33.00	\$.90	¾	56	56½	13	36	14
*AS	41.00	1.80	1½	60	56	15	18	19
*AT	41.00	1.80	1½	60	55½	15	18	17
*F	47.50	1.60	1½	116	56½	16	48	25
*FS	59.50	3.20	3	120	55½	18	24	36
*FT	59.50	3.20	3	120	55	17	24	34
Z4½	108.00	4.80	4½	124	51	25	18	49
Z6	115.00	6.40	6	124	52	25	12	59
W9	235.00	8.00	9	124	60	30	9.6	120
W11	255.00	9.60	11	124	60	30	8	130
W13	275.00	11.20	13	124	60	30	7	140
W15	300.00	12.80	15	124	60	30	6	150

*If wanted with intermediate locking pawl, add \$5.00 to list.

NOTE.—Models A-S and F-S: By attaching a special iron block, called a super attachment, to Model A or F hoist (and 5 feet of chain to keep the standard 5-foot lift) they can be converted into double their rated capacities. Super attachment for Model A-S, \$5.05; Model F-S, \$6.55.

Model C Coffing Two-Gear Chain Hoists
High Efficiency Cam Actuated

A free-running hoist, anti-friction throughout, all weather type, suitable for any application. Conforms to Army and Navy specifications.

This hoist has a most efficient gear reduction system, sealed and running in oil. Equipped throughout with lubri-sealed precision ball bearings.

All working parts are fully enclosed in certified malleable iron housing.

Has special designed load hooks and special alloy steel electric welded chain.

Tested at 100 per cent over rated capacity.



Model	Cap. Tons	Each	*Extra Chain per Lifting Foot	Extra Load Chain per Lineal Foot	Extra Hand Chain per 2 Lineal Feet	Net Wt. Lb.
C	½	\$60.00	\$.85	\$.50	\$.35	75
C	1	73.20	1.05	.70	.35	90
C	1½	85.00	1.05	.70	.35	90
CD	2	98.00	1.75	.70	.35	108
CD	3	110.00	1.75	.70	.35	108

Model	Cap. Tons	Std. Lift Feet	Min. Dist. Bet. Hooks In.	†Hoisting Speed per Min. Feet	Chain Pull to Lift Full Load Pounds	Chain Overhaul to Lift 1 Foot Feet
C	½	8	12¼	9	50	23
C	1	8	14¾	4½	75	32
C	1½	8	14¾	4	90	44
CD	2	9	18½	2¼	75	64
CD	3	10	18½	2	90	88

*Including hand and load chain. †Full load.

Sasgen Peerless Derricks



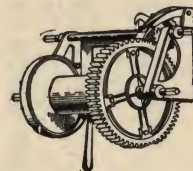
Capacity, 1800 pounds; weight, 325 pounds. Height, 8 feet; boom extends four feet, 6 inches. Equipped with 125 feet plow steel cable, block, cleats, and bolts for fastening, complete ready for work. Can be operated by hand or power. Built of all steel. Fittings malleable.

Drum holds 175 feet cable.

Hand Power each \$81.00

Power.....each 83.50

No. 110 Sasgen Single Drum Single Purchase Winches



Gears and frame of malleable iron.

Diam. and Lgth. Drum...in. 4x8

No. 110.....each \$25.50

Gear Ratio.....each 4 to 1

Lift, 2 Men 2 Lines...pounds 3000

Lift, 2 Men 4 Lines...pounds 6000

Weight.....pounds 75

No. 115 Sasgen Single Shaft Geared Winches



Diam. and Lgth. Drum...in. 4x8

No. 115.....each \$34.00

Gear Ratio.....each 3½ to 1

Lift, 1 Man 2 Lines...tons ¾

Lift, 2 Men 4 Lines...tons 1½

Weight.....pounds 71

Simplex Malleable Base Ball Bearing
Screw Jacks

4-Way Head Type



Non-slip corrugated, forged steel cap with self-leveling 9° float. Positively will not slip out from under loads. A single large chrome-molybdenum steel pivotal ball, nested in a hardened ball seat under cap, centers the load and actually reduces friction 88 per cent. There is no flattening of ball as when load is concentrated on one of a race of small balls. Base is tough malleable iron (except sizes marked †) to resist breakage due to rough handling and reduce weight. Bottom is broad for stability. Handle cast integral adds strength.

Safety peep-hole in base prevents turning screw out too far and eliminates measuring. Each jack of a given capacity is painted a different color for quick identification.

Chisel-pointed, high carbon, heat-treated, cold rolled steel bars are 40 per cent stronger than ordinary lever bars and are useful as pry bars, etc.

Size Inches	Jacks Each	Chisel-Pointed Heat-Treated		Height Closed Inches	Operable Rise of Screw Inches	Man Power Required		Jack Weight Lb.
		Lever Bars Each	Cap. Tons			*Lifting Cap. Tons	Cap. Lb.	
†1 x 6	\$2.60	\$	8 3/4	4 1/2	5	110	5	
1 1/4 x 4	2.90	\$.60	8	2	10	162	7	
†1 1/4 x 6	3.10	.60	9 3/4	4	10	162	9	
1 1/4 x 8	3.40	.60	12	6	10	162	11	
†1 1/4 x 10	3.80	.60	14	8	10	162	15	
†1 1/4 x 12	4.20	.60	16	10	10	162	18	
†1 1/2 x 4	3.25	.80	8	2	12	192	9	
1 1/2 x 6	3.75	.80	10 1/4	3 3/4	12	192	10	
†1 1/2 x 8	4.25	.80	12 1/4	5 3/4	12	192	12	
1 1/2 x 10	4.75	.80	14 1/4	7 3/4	12	192	14	
1 1/2 x 12	5.25	.80	16 1/4	9 3/4	12	192	16	
†1 1/2 x 14	6.00	.80	18 1/4	11 3/4	12	192	26	
†1 3/4 x 6	4.50	1.00	10 1/4	3 3/4	16	248	17	
1 3/4 x 8	5.00	1.00	12 1/4	5 3/4	16	248	15	
†1 3/4 x 10	5.75	1.00	14 1/4	7 3/4	16	248	18	
1 3/4 x 12	6.25	1.00	16 1/4	9 3/4	16	248	20	
†1 3/4 x 14	6.75	1.00	18 1/4	11 3/4	16	248	30	
†1 3/4 x 16	7.50	1.00	20 1/4	13 3/4	16	248	36	
†2 x 5	5.00	1.60	9 1/4	2	20	258	17	
2 x 6	5.25	1.60	10 1/2	3	20	258	15	
2 x 8	6.00	1.60	12 1/4	5	20	258	17	
2 x 10	6.75	1.60	14 1/4	7	20	258	20	
†2 x 12	7.50	1.60	16 1/4	9	20	258	23	
2 x 14	8.25	1.60	18 1/4	11	20	258	26	
2 x 16	9.25	1.60	20 1/4	13	20	258	28	
†2 x 18	10.25	1.60	22 1/4	15	20	258	44	
†2 1/2 x 6	7.75	2.40	11	3	24	335	29	
2 1/2 x 8	8.75	2.40	13	4 1/4	24	335	30	
2 1/2 x 10	9.75	2.40	15	6 1/4	24	335	33	
2 1/2 x 12	10.75	2.40	17	8 1/4	24	335	37	
2 1/2 x 14	12.00	2.40	19	10 1/4	24	335	40	
2 1/2 x 16	13.25	2.40	21	12 1/4	24	335	48	
2 1/2 x 18	14.50	2.40	23	14 1/4	24	335	52	
2 1/2 x 20	15.75	2.40	25	16 1/4	24	335	58	
†3 x 8	17.50	3.20	13 1/2	3 1/2	30	417	49	
†3 x 14	19.50	3.20	19 1/2	9 1/2	30	417	65	
†3 x 18	22.00	3.20	23 1/2	13 1/2	30	417	83	
†3 x 24	25.75	3.20	29 3/4	19 1/2	30	417	111	

Sizes are based on housing height.

These jacks conform to S. P. R. 97-30, Simplified Practice Division of U. S. Department of Commerce.

*Lifting capacities are guaranteed.

†Grey iron base.

†Sizes conform with Federal Government Specifications GGG-J51.

§The price of the 1x6-inch junior jack includes the lever bar.

Simplex Electrified Track Jacks
15-Ton—Tripping Type—Single and Double Acting



No. 217—Single Acting

Designed for track maintenance and construction. The manually operated trip safely controls tripping the load.

Built with high carbon and alloy steel heat-treated working parts, large base areas, and safety lugs underneath the caps. The jack housing where the toe lift bears is hardened by Electrifying, which reduces wear.

The Nos. 101 and 106, double acting, operate on both the upward and downward stroke of the lever bar, identical except for height and lift.

The Nos. 215, 216, 217 and 218 are single acting, and are identical except for height and lift. Built with a rust-proof tension spring squarely in back of the lifting and retaining pawls, which insures safe lifting at any angle.

The No. 215 is the modern type of track jack and is used effectively for both track surfacing and lining.

The toe lift of the double acting No. 304T is on the right side of the housing rather than opposite the lever socket.

Maximum man-power is developed by specifying square lever sockets and using steel lining bars. When oval or round sockets with oval or round hickory poles are desired, add \$1.00 to list. Lining bar prices upon application.

No.	215	216	217	218	101	106	304T
Each ...	\$19.00	19.00	21.00	27.00	21.00	27.00	21.00
Ht. . in.	10 1/2	17 1/2	22 3/4	29	22 3/4	29	22 3/4
Lift. . in.	5	8	13	19 1/4	13	18	13 1/2
Wt. . lb.	40	54	60	76	60	80	62

Simplex Industrial Jacks

Single Acting—Automatic
Raising and Lowering



Used by contractors, bridge and road builders, truckers, and operators of all types of heavy equipment and machinery for general purpose lifting, skidding, moving, leveling, etc.

This jack will lift the full capacities on the toe lift.

Extremely rugged, fast operating and efficient.

No.	With Lever Each	Capacity Tons	Height Inches	Lift Inches	Lever Inches	Standard Lever Socket	Weight Pounds
84A	\$15.00	5	14	7	30	2-Way	28
85A	16.00	5	17	10	30	2-Way	30
86A	18.00	5	20	13	36	2-Way	35
185	16.00	5	17	10	36	2-Way	33
*185	17.00	5	17	10	36	2-Way	36
†56	25.00	7 1/2	17	9 1/4	48	2-Way	42
1017	22.00	10	17	9 1/2	48	2-Way	40
22	25.00	10	21 1/4	12 1/2	60	2-Way	58
†24A	38.00	15	23 1/4	13	60	Oval	90
†29	40.00	15	28 3/4	19	60	Oval	96
249	50.00	15	35	24 1/2	60	Round	114
†2029	45.00	20	28 3/4	18	72	Oval	104

*With drop forged auxiliary cap shoe. Adjustable, providing 5 additional lifting points and makes it possible to lift on the right side of the jack or at a right angle to the operator.

†Electrified and has a large adjustable toe lift that is an integral part of jack and provides 3 extra lifting points.

†Also large round, small round (single or 2-way) or square lever sockets.

Simplex Emergency Jacks

Single Acting—Automatic Raising and Lowering



Ideal for lifting and lowering, pushing and pulling. For rigging, bridge work, pulling casing, pushing culverts, repairing power shovels, shoving and skidding, pulling and straightening telephone and power poles, etc.

Lifts on the cap, auxiliary shoe, the corrugated toe lift, and at any intermediate point by using the chain as a sling.

Has double lever socket, and foot operated base locking hook.

Furnished complete with chain, auxiliary cap shoe and lever.

No.	522	310A	2030
Complete.....	each	\$25.00	48.00 72.00
Capacity.....	tons	5	15 20
Height.....	inches	22	22 30
Lift.....	inches	14½	14 17¾
Positions of Auxiliary Shoe.....		1	2 4
Weight of Jack.....	pounds	42	74 106
Weight Complete.....	pounds	64	109 167

Simplex Geared Jacks

Single Acting—Automatic Raising and Lowering

Built for car, paver, trencher and power shovel repairs, heavy construction service, rigging and structural work.

Nos. 126 and 127 are built with broad right and left-hand toe lifts, respectively, and are generally used in pairs. Nos. 125 and 135 lift only on the cap.

Furnished with oval sockets and 6 feet oval hickory poles, which are the strongest type of lever poles.

No.	125	126	127	135
Each...	\$100.00	110.00	110.00	135.00
Cap.				
...tons	25	25	25	35
Ht...in.	26½	27½	27½	27
Lift...in.	15½	12½	12½	16
Wt...lb.	168	192	192	228



No. 126

Simplex Ball Bearing Journal Jacks

Powerful, light, simple, and over-strong. Low in height but high in capacity and efficiency.

Modern design, heat-treated alloy steel forgings, special bronze nuts, and greater gear ratios. Ratchet mechanism fully enclosed. Positive stops.

Height, 10 inches.

Each jack furnished with a heat-treated steel lever bar.



No. 2510

No.	*1510A	2510	3510	5010
Each.....	\$25.00	36.00	55.00	95.00
Lift.....	inches	5	5	4
Capacity.....	tons	15	25	35 50
Weight.....	pounds	31	35	41 65

*Open type ratchet lever socket.

Joyce Liftmaster Hydraulic Jacks

No. NB-1.5-S



No. T-12



No. B-7-S

Especially effective in close quarters. One piece body construction with sled type base and convenient carrying handle.

With 36-inch 2-piece handle which locks onto pump lever.

Auto, Truck and Bus Models

No.	Each	Capacity Tons	Low Height In.	Lift In.	Extension In.	Total Height In.	Weight Lb. with Handle
NB-1.5-S	\$3.65	1½	7	5	3	15	7½
HPC-2	6.25	2	10	7¾	...	17¾	12
T-2.5-S	11.95	2½	8	6	3	17	16¼
T-4.5-S	15.00	4½	9	5¾	2½	17¼	20
T-7	19.00	7	8¾	5½	...	14½	25
T-7-S	19.35	7	9	5½	2½	17	24
T-12	28.00	12	10¾	6¾	...	16¾	38
T-12-S	28.70	12	10½	6¾	3½	20¾	38½
LT-12-S	28.70	12	8	5	2½	15½	34½
MT-12-S	28.70	12	9	6	3½	18½	37¼
B-4.5	42.00	4½	7½	8	...	15½	33
B-7-S	45.00	7	7¾	8	2¼	17¾	33
HB 7-S	48.00	7	8½	10½	2¼	21¼	36
Industrial Models							
PT-20	\$51.75	20	9¾	6¾	...	16¾	55
PT-30	81.50	30	10¼	6¾	...	17	65

Simplex Push and Pull Jacks

No. 825



No. 1524

No. 825.—8-ton puller jack is designed for pulling together structural members, for bridge, piling and dock work, also general wrecking.

No. 1040.—10-ton push and pull jack is made for pushing apart and pulling together, for car repairs, for bridge, piling and dock work and wrecking.

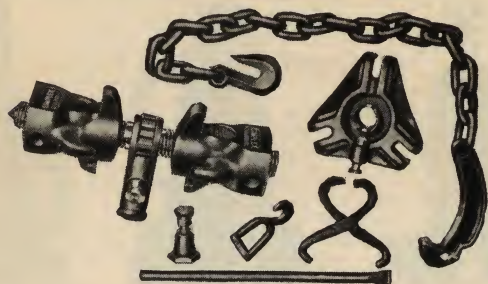
Nos. 1524, 1528 and 1536.—15-ton push and pull jacks are used extensively in the erection of bridges, tanks, forms and for pulling together and pushing apart structural members, sheets and equipment. Also used for straightening axles, piling, guard rails, spreading or drawing in car sills.

No.	Each	Capacity Tons	Low Height In.	Lift In.	Extension In.	Total Height In.	Weight Lb. with Handle
825	\$22.00	8	10	15	15	25	27.00
1040	38.00	10	15	24	24	28	36
1524	24.00	15	2	2	2	2	30
1528	25.00	15	2	2	2	2	30
1536	27.00	15	2	2	2	2	30

Deduct \$1.00 from the price if the lever is not required.

*Add \$5.00 to the price if a heat-treated alloy steel screw, which increases the capacity to 25 tons, is desired.

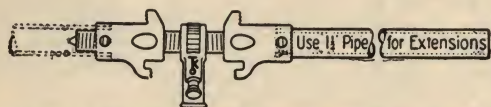
Simplex Util-A-Tools



This tool pushes objects apart on the drop forged and corrugated nut ends, or on pipes inserted in nut wells or on the spreading lugs.

It pulls together, using chains with the sky hooks, which are inserted in the nut holes, or on clamping lugs.

It lifts when the triangular snap-on base is attached. Pulls spoked or solid center wheels and gears by attaching the 3-



1 1/2-Inch Pipe Fits into the Recessed Wells of the Nuts



way chain base, centering the live center in the shaft after removing the nut and connecting the three chains with the base and object to be pulled.

Util-a-tool clamps parts for welding or assembly; straightens bent objects; bends pipe and structural steel members; loosens and pulls frozen objects; tensions guy wires; holds down portable machines.

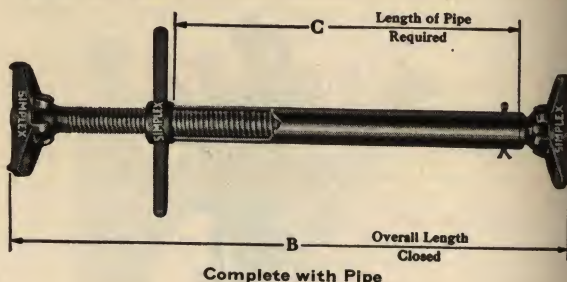
Can be used as a regular 10-ton jack or emergency hoist.

Util-a-tool maintenance set consists of a Simplex push-pull jack, two drop-forged chrome-nickel steel sky hooks, drop-forged 3-way base (which is also a wheel puller) and a No. 3A spreader jack. Included also are three 1/2x40-inch chains with forged steel grab hooks and claws, forged chisel pointed lever bar 3/4 inch round and 18 inches long, and enameled steel tool box, with lock and key, 19x7x7 1/4 inches. Use 1-inch pipe in base, or 1/2-inch pipe in cap of No. 3A jack, for wider spreads.

Jack No.....	610	612	614	616	618
Jack Only.....each	\$15.00	15.50	16.00	16.50	17.00
Weight, Jack Only..lb.	11	12	13	14	15
Maintenance Set..each	\$46.30	46.80	47.30	47.80	48.30
Wt., Maintenance Set					
.....lb.	74	74 1/2	75	75 1/2	76
Length Screw.....in.	10	12	14	16	18
Screw Travel.....in.	4 3/4	6 3/4	8 3/4	10 3/4	12 3/4

Simplex Stud Links are optional equipment and are \$1.00 each.

Simplex Drop-Forged Steel Trench Braces



Complete with Pipe

Constructed entirely of steel drop forgings. The safety lever nuts are blunt, which prevents injuries and damage. The ball and socket joints at each end permit quick adjustment and tight gripping at all angles. Three way nuts can be furnished in lieu of lever nuts at no extra cost.

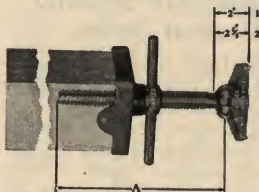
Specifications Complete with Pipe

No.	Per Doz.	Pipe and Screw Diam. Inches	A Length of Screw Inches	B Length of Brace Closed Inches	C Length of Pipe Inches	Safe Extension of Screw Inches	Wt. Lb. per Doz. with Pipe
1	\$46.00	1 1/2	10	16	8 1/2	6	178
2	46.00	1 1/2	12	18	10 1/2	7	193
3	48.00	1 1/2	14	21	13 1/2	9	210
4	48.00	1 1/2	14	24	16 1/2	9	218
5	52.00	1 1/2	16	27	19 1/2	10	235
6	52.00	1 1/2	16	30	22 1/2	10	243
7	54.00	1 1/2	18	36	28 1/2	11	269
8	56.00	1 1/2	18	42	34 1/2	11	285
9	58.00	1 1/2	18	48	40 1/2	10	301
10	102.00	2	18	36	26	10	480
11	104.00	2	18	42	32	10	502
12	106.00	2	18	48	38	10	524
13	108.00	2	18	54	44	10	545
14	110.00	2	18	60	50	10	567

Specifications without Pipe

No.	Without Pipe per Dozen	Screw Ends Only per Dozen	Socket Butts Only per Dozen	Diameter Screw Inches	Length Screw Inches	Safe Extension of Screw Inches	Weight Pounds per Dozen
15	\$40.00	\$30.00	\$10.00	1 1/2	10	6	155
16	40.00	30.00	10.00	1 1/2	12	7	164
17	42.00	32.00	10.00	1 1/2	14	9	173
18	44.00	34.00	10.00	1 1/2	16	10	182
19	46.00	36.00	10.00	1 1/2	18	11	191
20	90.00	66.00	24.00	2	18	10	385

Simplex Drop Forged Timber Braces



Especially valuable and practical for wide and deep trenches; also for foundation and subway work.

The screw ends are the same as the Simplex Trench Braces. Timbers are not furnished.

Three-way nuts can be furnished in lieu of lever nuts at no extra charge.

No.	21	22	23	24	25
Per Doz. Sets.....	\$47.00	\$52.00	\$56.00	\$86.00	\$96.00
Timber Caps..per doz.	15.00	20.00	20.00	20.00	30.00
Diameter Screw....in.	1 1/2	1 1/2	1 1/2	2	2
"A," Length Screw.in.	14	14	18	18	18
Size Timber Caps...in.	4x4	6x6	6x6	6x6	8x8
Weight per Doz.....lb.	133	169	186	343	353

Black or Galvanized Pipe
Steel, Copper Bearing Steel or Iron
Lap-Weld, Butt-Weld or Seamless



With Plain Ends



With Threads and Coupling



With Beveled Ends

Standard

All Weights and Dimensions are Nominal

Size Inches	Black per Foot	DIAMETER, INCHES		Thick- ness Inches	WT., LB., PER FT.		No. of Threads per Inch
		External	Internal		Plain End	Threaded and Coupled	
1/8	\$.05 1/2	.405	.269	.068	.24	.24	27
1/4	.06	.540	.364	.088	.42	.42	18
3/8	.06	.675	.493	.091	.56	.56	18
1/2	.08 1/2	.840	.622	.109	.85	.85	14
3/4	.11 1/2	1.050	.824	.113	1.13	1.13	14
1	.17	1.315	1.049	.133	1.67	1.68	11 1/2
1 1/4	.23	1.660	1.380	.140	2.27	2.28	11 1/2
1 1/2	.27 1/2	1.900	1.610	.145	2.71	2.73	11 1/2
2	.37	2.375	2.067	.154	3.65	3.67	11 1/2
2 1/2	.58 1/2	2.875	2.469	.203	5.79	5.81	8
3	.76 1/2	3.500	3.068	.216	7.57	7.61	8
3 1/2	.92	4.	3.548	.226	9.10	9.20	8
4	1.09	4.500	4.026	.237	10.79	10.88	8
5	1.48	5.563	5.047	.258	14.61	14.81	8
6	1.92	6.625	6.065	.280	18.97	19.18	8
8	2.50	8.625	8.071	.277	24.69	25.00	8
8	2.88	8.625	7.981	.322	28.55	28.80	8
10	3.20	10.750	10.192	.279	31.20	32.00	8
10	3.50	10.750	10.136	.307	34.24	35.00	8
10	4.12	10.750	10.020	.365	40.48	41.13	8
12	4.50	12.750	12.090	.330	43.77	45.00	8
12	5.07	12.750	12.000	.375	49.56	50.70	8

The permissible variation in weight is 5% above and 5% below.

Average Number of Feet and Weight per Bundle

Size.....inches	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
Pieces.....	30	24	18	12	7	5	3	3
Feet.....	500	420	340	240	140	100	60	60
Weight....pounds	123	179	193	204	159	168	137	164

Trade Customs of Standard

Furnished with threads and couplings and in random lengths unless otherwise ordered.

Plain ends or beveled ends for welding either 37 1/2° or 45° or with ends fitted especially for a specified coupler can be furnished.

Taper of threads is 3/4-inch diameter per foot length for all sizes.

Weight per foot of pipe with threads and couplings is based on a length of 20 feet, including the coupling, but shipping lengths of small sizes will usually average less than 20 feet.

On sizes made in more than one weight, weight desired must be specified.

For pipe smoothed on the inside, known as reamed and drifted, an extra charge will be made above standard pipe.

On orders calling for commercial sizes of pipe which are finished with threads and couplings, in sizes 1/8 to 12-inch inclusive, and where orders specify quantity in linear feet, it is understood that random lengths fitted with threads both ends and coupling one end will be supplied and the measurement is charged over all, including coupling.

If cut lengths of any sizes are ordered, instructions must appear on the face of the order whether plain ends, threads only or threads and couplings are required. The pipe proper is cut to the length specified for plain ends or threads only, and if cut lengths with threads and couplings are specified, the practice is the same except that the couplings are charged separately whether shipped loose or screwed on the pipe.

For cut lengths, an extra charge will be made above random.

For galvanized, coated pipe, or copper bearing steel pipe, an extra charge will be made above black. Seamless or copper bearing steel pipe can be furnished in all of the above weights and dimensions.

Extra Strong

All Weights and Dimensions are Nominal

Size Inches	Black per Foot	DIAMETER, INCHES		Thick- ness Inches	Weight Pounds per Foot Plain Ends
		External	Internal		
1/8	\$.12	.405	.215	.095	.31
1/4	.07 1/2	.540	.302	.119	.53
3/8	.07 1/2	.675	.423	.126	.73
1/2	.11	.840	.546	.147	1.08
3/4	.15	1.050	.742	.154	1.47
1	.22	1.315	.957	.179	2.17
1 1/4	.30	1.660	1.278	.191	2.99
1 1/2	.36 1/2	1.900	1.500	.200	3.63
2	.50 1/2	2.375	1.939	.218	5.02
2 1/2	.77	2.875	2.323	.276	7.66
3	1.03	3.500	2.900	.300	10.25
3 1/2	1.25	4.000	3.364	.318	12.50
4	1.50	4.500	3.826	.337	14.98
5	2.08	5.563	4.813	.375	20.77
6	2.86	6.625	5.761	.432	28.57
8	4.34	8.625	7.625	.500	43.38
10	5.48	10.750	9.750	.500	54.73
12	6.55	12.750	11.750	.500	65.41

The permissible variation in weight is 5% above and 5% below.

Average Number of Feet and Weight per Bundle

Size.....inches	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
Pieces.....	30	24	18	12	7	5	3	3
Feet.....	500	400	330	230	140	100	60	60
Weight....pounds	157	214	240	250	206	217	180	218

Double Extra Strong

All Weights and Dimensions are Nominal

Size Inches	Black per Foot	DIAMETER, INCHES		Thick- ness Inches	Weight Pounds per Foot Plain Ends
		External	Internal		
1/2	\$.32	.840	.252	.294	1.71
3/4	.35	1.050	.434	.308	2.44
1	.37	1.315	.599	.358	3.65
1 1/4	.52 1/2	1.660	.896	.382	5.21
1 1/2	.65	1.900	1.100	.400	6.40
2	.91	2.375	1.503	.436	9.02
2 1/2	1.37	2.875	1.771	.552	13.69
3	1.86	3.500	2.300	.600	18.58
3 1/2	2.30	4.000	2.728	.636	22.85
4	2.76	4.500	3.152	.674	27.54
5	3.86	5.563	4.063	.750	38.55
6	5.32	6.625	4.897	.864	53.16
8	7.25	8.625	6.875	.875	72.42

Permissible variation in weight is 10% above or below.

Average Number of Feet and Weight per Bundle

Size.....inches	1/2	3/4	1	1 1/4	1 1/2
Pieces.....	7	5	3	3	3
Feet.....	130	95	60	60	60
Weight....pounds	223	232	220	313	384

Trade Customs of Extra Strong and Double Extra Strong

Furnished with plain ends and in random lengths unless otherwise ordered.

Beveled ends for welding either 37 1/2° or 45° or with ends fitted especially for a specified coupler can be furnished.

For pipe fitted with threads only or with threads and couplings, an extra charge will be made above plain ends.

Random length of extra strong and double extra strong pipe is considered to be 12 feet to 22 feet, we to have the privilege, however, of supplying not exceeding 5 per cent of total order in lengths from 6 to 12 feet.

Pipe Nipples

Effective September 1, 1933

Lists apply to **standard** wrought steel, close, short, long, and tank nipples.
 Nipples made from genuine wrought Iron or Copper bearing pipe, prices upon application.
 For list of black nipples made from **extra strong pipe**, double the list of black nipples. For list of black nipples made from **double extra strong pipe**, multiply price of standard black nipples by 4. For list of galvanized nipples made from extra strong pipe, add list of standard black nipples to list of standard galvanized nipples.
 For price on Butt Nipples, add 20% to price of short nipples.
 For list of lengths not listed (under 12 inches), use list of next longer length. For list of lengths over 12 to 24 inches, compute price by adding nearest equal lengths.
 *Tank nipples are 6 inches long, standard pipe thread on one end, American Standard Locknut Thread 4 inches long on other end.

Close Nipple



Short Nipple



Long Nipple



*Tank Nipple

Diam. In.	LENGTH INCHES			Standard Black Right Hand Nipples—Each											
	Close	Short		2	2½	3	3½	4	4½	5	5½	*6	7	8	9
1/8	3/4	1½		\$.05	\$.06	\$.07	\$.08	\$.08	\$.09	\$.10	\$.11	\$.12	\$.13	\$.14	\$.15
1/4	7/8	1½		.05	.06	.07	.08	.08	.09	.10	.11	.12	.13	.14	.15
3/8	1	1½		.05	.06	.07	.08	.08	.09	.10	.11	.12	.13	.14	.15
1/2	1½	2		.06	.07	.08	.09	.09	.10	.11	.12	.13	.14	.15	.16
3/4	1¾	2		.08	.09	....	.10	.11	.12	.13	.14	.15	.16	.17	.18
1	1½	2		.10	.11	....	.13	.14	.15	.16	.17	.18	.19	.20	.21
1¼	1¾	2½		.13	.15	....	....	.16	.18	.20	.22	.24	.26	.28	.30
1½	1¾	2½		.16	.18	....	....	.20	.22	.25	.27	.29	.31	.34	.38
2	2	2½		.21	.24	....	....	.28	.31	.34	.37	.40	.44	.48	.53
2½	2½	3		.39	.45	....	....	....	.58	.63	.68	.73	.78	.85	.94
3	2½	3		.54	.59	....	....	....	.65	.73	.81	.89	.96	1.04	1.19
3½	2¾	4		.72	.98	....	....	....	....	1.06	1.14	1.21	1.29	1.45	1.61
4	2¾	4		.92	1.12	....	....	....	....	1.28	1.38	1.48	1.60	1.80	2.00
4½	2¾	4		1.35	1.60	....	....	....	....	1.75	1.90	2.10	2.25	2.50	2.75
5	3	4½		1.60	2.00	....	....	....	....	....	2.05	2.17	2.29	2.61	2.91
6	3½	4½		2.00	2.45	....	....	....	....	....	2.58	2.73	2.90	3.36	3.68
7	3¾	5		3.30	4.00	....	....	....	....	....	....	4.20	4.45	4.85	5.25
8	3½	5		4.30	4.87	....	....	....	....	....	....	....	....	5.65	6.05
9	3¾	5		5.25	5.85	....	....	....	....	....	5.00	5.44	5.71	6.10	6.48
10	3¾	5		5.88	6.50	....	....	....	....	....	....	....	....	8.00	8.55
12	4½	6		7.40	8.70	....	....	....	....	....	....	....	....	10.00	10.90

Standard Black Right and Left Nipples—Each

Diam. In.	Close	Short		2	2½	3	3½	4	4½	5	5½	*6	7	8	9
1/8	3/4	1½		\$.07	\$.08	\$.10	\$.11	\$.11	\$.12	\$.12	\$.13	\$.15	\$.16	\$.17	\$.19
1/4	7/8	1½		.07	.08	.10	.11	.11	.12	.12	.13	.15	.16	.17	.19
3/8	1	1½		.07	.08	.10	.11	.11	.12	.12	.13	.15	.16	.17	.19
1/2	1½	1½		.08	.10	.11	.12	.12	.13	.13	.15	.16	.17	.19	.20
3/4	1¾	2		.11	.12	....	.13	.15	.16	.17	.19	.20	.21	.23	.25
1	1½	2		.13	.15	....	.17	.19	.20	.21	.23	.24	.25	.26	.32
1¼	1¾	2½		.17	.20	....	....	.21	.24	.26	.29	.32	.34	.37	.42
1½	1¾	2½		.21	.24	....	....	.26	.29	.33	.36	.38	.41	.45	.50
2	2	2½		.28	.32	....	....	.37	.41	.45	.49	.52	.58	.63	.69
2½	2½	3		.51	.59	....	....	....	.76	.82	.89	.95	1.02	1.11	1.23
3	2½	3		.71	.77	....	....	....	.85	.95	1.06	1.16	1.25	1.36	1.55
3½	2¾	4		.94	1.28	....	....	....	....	1.38	1.49	1.58	1.68	1.89	2.10
4	2¾	4		1.20	1.46	....	....	....	....	1.67	1.80	1.93	2.08	2.34	2.60


Standard Galvanized Right Hand Nipples—Each

Diam. In.	Close	Short		2	2½	3	3½	4	4½	5	5½	*6	7	8	9
1/8	3/4	1½		\$.07	\$.08	\$.10	\$.11	\$.12	\$.13	\$.14	\$.15	\$.16	\$.17	\$.19	\$.22
1/4	7/8	1½		.07	.08	.10	.11	.12	.13	.14	.15	.16	.17	.19	.22
3/8	1	1½		.07	.08	.10	.11	.12	.13	.14	.15	.16	.17	.19	.22
1/2	1½	1½		.08	.09	.11	.12	.13	.14	.15	.16	.17	.18	.20	.23
3/4	1¾	2		.10	.12	....	.13	.14	.16	.18	.20	.22	.24	.26	.29
1	1½	2		.13	.15	....	.18	.20	.22	.24	.26	.28	.30	.34	.38
1¼	1¾	2½		.17	.22	....	....	.26	.28	.30	.34	.37	.40	.44	.48
1½	1¾	2½		.22	.26	....	....	.30	.34	.38	.42	.45	.48	.52	.58
2	2	2½		.30	.35	....	....	.40	.45	.50	.55	.60	.65	.70	.79
2½	2½	3		.60	.66	....	....	....	.75	.83	.90	.98	1.06	1.14	1.28
3	2½	3		.80	.87	....	....	....	1.01	1.10	1.20	1.30	1.40	1.50	1.70
3½	2¾	4		1.15	1.40	....	....	....	....	1.53	1.65	1.78	1.91	2.16	2.41
4	2¾	4		1.27	1.60	....	....	....	....	1.85	2.00	2.15	2.30	2.60	2.90
4½	2¾	4		1.75	2.15	....	....	....	....	2.35	2.55	2.75	3.00	3.40	3.80
5	3	4½		2.29	2.87	....	....	....	....	....	3.01	3.21	3.40	3.95	4.35
6	3½	4½		2.86	3.56	....	....	....	....	....	3.79	4.03	4.30	5.00	5.52
7	3¾	5		4.10	5.35	....	....	....	....	....	....	5.70	6.05	6.75	7.45
8	3½	5		5.52	6.37	....	....	....	....	....	....	6.65	6.95	7.55	8.15

Standard Galvanized Right and Left Nipples—Each

Diam. In.	Close	Short		2	2½	3	3½	4	4½	5	5½	*6	7	8	9
1/8	3/4	1½		\$.12	\$.13	\$.16	\$.18	\$.18	\$.20	\$.20	\$.21	\$.24	\$.26	\$.28	\$.31
1/4	7/8	1½		.12	.13	.16	.18	.18	.20	.20	.21	.24	.26	.28	.31
3/8	1	1½		.12	.13	.16	.18	.18	.20	.20	.21	.24	.26	.28	.31
1/2	1½	1½		.13	.16	.18	.20	.20	.21	.21	.24	.26	.28	.31	.32
3/4	1¾	2		.18	.20	....	.21	.24	.26	.28	.31	.32	.34	.35	.40
1	1½	2		.21	.24	....	.28	.31	.32	.34	.35	.40	.45	.48	.53
1¼	1¾	2½		.28	.32	....	....	.34	.39	.42	.47	.52	.55	.60	.68
1½	1¾	2½		.34	.39	....	....	.42	.47	.53	.58	.61	.66	.72	.80
2	2	2½		.45	.52	....	....	.60	.66	.72	.79	.84	.93	1.01	1.11
2½	2½	3		.82	.95	....	....	....	1.22	1.32	1.43	1.52	1.64	1.78	1.97
3	2½	3		1.14	1.24	....	....	....	1.36	1.52	1.70	1.86	2.00	2.18	2.48
3½	2¾	4		1.51	2.05	....	....	....	....	2.19	2.39	2.53	2.69	3.03	3.36
4	2¾	4		1.92	2.34	....	....	....	....	2.68	2.88	3.09	3.33	3.75	4.16

Standard Wrought Pipe Couplings

Size Pipe Inches	R.H. Black Each	R.H. Galv. Each	R. & L. Black Each	Nom. Outside Diam. Inches	Length Inches
					
1/8	\$.05	\$.06	.....	.594	7/8
1/4	.05	.06	\$.07	.750	1
3/8	.06	.08	.08	.906	1 1/8
1/2	.07	.10	.11	1.063	1 3/8
3/4	.10	.13	.15	1.297	1 1/2
1	.13	.18	.20	1.563	1 3/4
1 1/4	.17	.25	.25	1.969	2 1/8
1 1/2	.21	.32	.30	2.234	2 5/16
2	.28	.40	.50	2.719	2 3/8
2 1/2	.40	.55	.85	3.313	2 3/8
3	.60	.80	1.20	3.938	3 1/8
3 1/2	.80	1.05	1.60	4.438	3 1/8
4	1.00	1.40	2.00	4.938	3 1/8

No. 713

Sizes 4 1/2 to 12 inches can be furnished to order.

Prices on application.

Extra Heavy Plain Wrought Pipe Couplings




No. 720

Size In.	R.H. Black Each	R. & L. Black Each	O.D. In.	Lgth. In.	Size In.	R.H. Black Each	R. & L. Black Each	O.D. In.	Lgth. In.
1/8	\$.12	\$.17	...	.59	1 1/2	\$.42	\$.55	2.31	2 3/8
1/4	.12	.17	...	.75	2	.56	.75	2.81	3 1/8
3/8	.14	.20	...	.95	2 1/2	.80	1.05	3.31	3 1/2
1/2	.14	.20	.20	1.13	3	1.20	1.50	4.00	3 1/2
3/4	.20	.25	.30	1.44	3 1/2	1.60	1.90	4.63	4 1/4
1	.26	.32	.40	1.70	4	2.00	3.00	5.13	4 1/4
1 1/4	.34	.42	.45	2.07					

Sizes 4 1/2 to 12 inches can be furnished to order.
Prices upon application.

90° Malleable Elbows

Straight

Size Inches	Black Each	Galv. Each	Size Inches	Black Each	Galv. Each
					
1/8	\$.05	\$.07	2	\$.40	\$.52
1/4	.05	.07	2 1/2	.72	.95
3/8	.06	.08	3	1.00	1.30
1/2	.07	.09	3 1/2	1.50	1.95
3/4	.10	.13	4	1.80	2.35
1	.13	.17	5	3.25	4.25
1 1/4	.20	.26	6	4.65	6.05
1 1/2	.25	.33	...	.....	.....

No. 101


Reducing

Size In.	Black Each	Galv. Each	Size In.	Black Each	Galv. Each
1/4	\$.06	\$.08	3 1/2	\$.16	\$.21
3/8	.07	.09	4	.20	.26
1/2	.08	.10	6	.51	.67
3/4	.11	.14	...	.....	.....
1	.14	.18	...	.....	.....

Right and Left

Size In.	Black Each	Galv. Each	Size In.	Black Each	Galv. Each
1/4	\$.06	\$.08	1 1/2	\$.29	\$.38
3/8	.07	.09	2	.46	.60
1/2	.08	.10	...	...	...


45° Malleable Elbows

Size In.	Black Each	Galv. Each	Size In.	Black Each	Galv. Each
					
1/8	\$.06	\$.08	2	\$.48	\$.62
1/4	.06	.08	2 1/2	.86	1.10
3/8	.07	.09	3	1.20	1.55
1/2	.09	.12	3 1/2	1.80	2.35
3/4	.12	.16	4	2.20	2.85
1	.16	.21	5	3.90	5.10
1 1/4	.24	.31	6	5.60	7.30
1 1/2	.30	.39	...	.....	.....

No. 102

90° Malleable Street Elbows

Straight

Size In.	Black Each	Galv. Each	Size In.	Black Each	Galv. Each
					
1/8	\$.06	\$.08	2	\$.46	\$.60
1/4	.06	.08	2 1/2	.83	1.10
3/8	.07	.09	3	1.15	1.50
1/2	.08	.10	3 1/2	1.80	2.35
3/4	.12	.16	4	2.10	2.75
1	.15	.20	5	3.75	4.90
1 1/4	.23	.30	6	5.35	6.95
1 1/2	.29	.38	...	.....	.....

No. 103

Reducing

Size In.	Black Each	Galv. Each	Size In.	Black Each	Galv. Each
3/8	\$.08	\$.10	1 1/4	\$.25	\$.33
1/4	.13	.17	1 1/2	.32	.42
1	.17	.22	2	.51	.66
			4	2.30	3.00


Malleable Tees

Size In.	No. 110, Straight Black Each	Galv. Each	No. 111, Reducing Black Each	Galv. Each
				
1/8	\$.07	\$.09	...	...
1/4	.07	.09	...	...
3/8	.08	.10	.09	.12
1/2	.10	.13	.11	.14
3/4	.13	.17	.15	.20
1	.17	.22	.19	.25
1 1/4	.26	.34	.29	.38
1 1/2	.33	.43	.37	.48
2	.52	.68	.57	.75
2 1/2	.90	1.20	1.00	1.30
3	1.30	1.70	1.45	1.90
3 1/2	2.00	2.60	2.20	2.85
4	2.40	3.10	2.65	3.45
5	4.25	5.55	4.70	6.10
6	6.00	7.80	6.60	8.60

No. 111 Reducing

Malleable Service Tees

Straight

Size In.	Black Each	Galv. Each	Size In.	Black Each	Galv. Each
					
1/4	\$.08	\$.10	1 1/2	\$.38	\$.50
3/8	.09	.12	2	.60	.78
1/2	.12	.16	2 1/2	1.05	1.37
3/4	.15	.20	3	1.50	1.95
1	.20	.26	4	2.75	3.60
1 1/4	.30	.39	...	.....	.....


No. 115

Reducing

Size In.	Black Each	Galv. Each	Size In.	Black Each	Galv. Each
3/8	\$.13	\$.17	1 1/4	\$.33	\$.43
1/4	.17	.22	1 1/2	.42	.55
1	.22	.29	2	.66	.86
			2 1/2	\$.15	\$.15
			3	1.65	2.15
			4	3.05	3.95

Malleable Crosses

Straight

Size In.	Black Each	Galv. Each	Size In.	Black Each	Galv. Each
					
1/8	\$.09	\$.12	1	\$.23	\$.30
1/4	.09	.12	1 1/4	.35	.46
3/8	.11	.14	1 1/2	.44	.57
1/2	.13	.17	2	.70	.90
3/4	.18	.23	...	...	...

No. 116

Reducing

Size In.	Black Each	Galv. Each	Size In.	Black Each	Galv. Each
1/4	\$.10	\$.13	3/4	\$.20	\$.26
3/8	.12	.16	1	.25	.33
1/2	.14	.18	1 1/4	.38	.50
			1 1/2	\$.48	\$.62
			2	.77	1.00
		

45° Malleable Y Bends



Straight					
Size In.	Black Each	Galv. Each	Size In.	Black Each	Galv. Each
3/8	\$.10	\$.13	1 1/2	\$.57	\$.75
1/2	.14	.18	2	.85	1.10
3/4	.18	.23	2 1/2	1.55	2.00
1	.25	.33	3	2.80	3.65
1 1/4	.40	.52	4	4.80	6.25

Reducing

Size In.	Black Each	Galv. Each	Size In.	Black Each	Galv. Each
1	\$.28	\$.36	2	\$.95	\$ 1.25
1 1/4	.44	.57	2 1/2	1.70	2.20
1 1/2	.63	.82	3	3.10	4.05
			5	\$ 9.00	\$ 11.70
			6	13.00	16.90
		

Straight 60° Malleable Y Bends

Finish.....	Black	Galv.
2-Inch Size.....	each \$1.00	\$1.30

Medium Pattern Malleable Return Bends



No. 132

Size Inches	RIGHT-HAND EACH		RIGHT AND LEFT EACH		Center to Center Inches
	Black	Galv.	Black	Galv.	
1/2	\$.17	\$.22	\$.19	\$.25	1 1/4
3/4	.20	.26	.23	.30	1 1/2
1	.26	.34	.30	.39	1 3/8
1 1/4	.40	.52	.46	.60	2 1/4
1 1/2	.55	.72	.63	.82	2 1/2
2	.88	1.15	1.00	1.30	3



No. 133

Size Inches	RIGHT-HAND EACH		RIGHT AND LEFT EACH		Center to Center Inches
	Black Each	Galv. Each	Black Each	Galv. Each	
1/2	\$.19	\$.25	\$.22	\$.29	1 1/2
3/4	.22	.29	.26	.34	2
1	.29	.38	.34	.44	2 1/2
1 1/4	.44	.57	.51	.66	3
1 1/2	.62	.80	.70	.90	3 1/2
2	1.00	1.30	1.15	1.50	4
2 1/2	1.45	1.90	1.65	2.15	4 1/2
3	2.15	2.80	2.45	3.20	5
4	5.80	7.55	.....	....	6

Malleable Caps



No. 125

Size In.	Black Each	Galv. Each	Size In.	Black Each	Galv. Each
1/4	\$.03	\$.04	2	\$.25	\$.33
3/8	.04	.05	2 1/2	.40	.52
1/2	.05	.07	3	.60	.78
3/4	.08	.10	3 1/2	.80	1.05
1	.10	.13	4	1.10	1.45
1 1/4	.13	.17	5	1.80	2.35
1 1/2	.18	.23	6	2.70	3.50

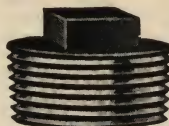
Malleable Reducer Couplings



No. 123

Size In.	Black Each	Galv. Each	Size In.	Black Each	Galv. Each
1/4	\$.05	\$.07	2	\$.28	\$.36
3/8	.05	.07	2 1/2	.50	.65
1/2	.06	.08	3	.75	1.00
3/4	.09	.12	3 1/2	1.10	1.45
1	.12	.16	4	1.40	1.85
1 1/4	.15	.20	5	2.50	3.25
1 1/2	.18	.23	6	3.60	4.70

Square Head Plugs



No. 321

Size In.	Black Each	Galv. Each	Size In.	Black Each	Galv. Each
1/8	\$.02	\$.04	2 1/2	\$.18	\$.36
1/4	.02	.04	3	.25	.50
3/8	.02	.04	3 1/2	.38	.76
1/2	.02	.04	4	.42	.84
3/4	.03	.06	5	.88	1.75
1	.04	.08	6	1.20	2.40
1 1/4	.05	.10	8	2.75	5.50
1 1/2	.07	.14	10	3.75	7.50
2	.10	.20	12	5.00	10.00

Solid Square Head Plugs

Size In.	Black Each	Galv. Each	Size In.	Black Each	Galv. Each	Size In.	Black Each	Galv. Each
1/8	\$.02	\$.04	3/4	\$.06	\$.12	2	\$.15	\$.30
1/4	.02	.04	1	.08	.16	2 1/2	.27	.54
3/8	.02	.04	1 1/4	.09	.18	3	.38	.76
1/2	.04	.08	1 1/2	.11	.22	3 1/2	.57	1.14

Countersunk Plugs



No. 322

Size In.	Black Each	Galv. Each	Size In.	Black Each	Galv. Each
1/8	\$.04	\$.08	2	\$.15	\$.30
1/4	.04	.08	2 1/2	.30	.60
1/2	.04	.08	3	.40	.80
3/4	.06	.12	3 1/2	.92	1.84
1	.08	.16	4	1.10	2.20
1 1/4	.09	.18	5	2.00	4.00
1 1/2	.11	.22	6	3.50	7.00

*Steel. †Malleable. All other sizes, cast iron.

Malleable Iron Shoulder Bushings



No. 135

Size In.	PRICE, EACH		Size In.	PRICE, EACH	
	Black	Galv.		Black	Galv.
1/4	\$.04	\$.08	2	\$.14	\$.28
3/8	.04	.08	2 1/2	.21	.42
1/2	.04	.08	3	.30	.60
3/4	.05	.10	3 1/2	.40	.80
1	.06	.12	4	.50	1.00
1 1/4	.07	.14	5	.93	1.85
1 1/2	.09	.18	6	1.25	2.50

Malleable Locknuts



No. 127

Sizes 5 to 12-inch, use cast iron.

Size In.	Black Each	Galv. Each	Size In.	Black Each	Galv. Each
1/8	\$.02	\$.03	1 1/2	\$.10	\$.13
1/4	.02 1/2	.03 1/2	2	.12	.16
3/8	.02 1/2	.03 1/2	2 1/2	.30	.39
1/2	.03	.04	3	.38	.50
3/4	.04	.05	3 1/2	.43	.56
1	.06	.08	4	.48	.62
1 1/4	.08	.10	...	...	...

Malleable Waste Nuts



No. 126

Size In.	Black Each	Galv. Each	Size In.	Black Each	Galv. Each
1/8	\$.03	\$.04	1	\$.06	\$.08
1/4	.03	.04	1 1/4	.11	.14
3/8	.04	.05	1 1/2	.25	.33
1/2	.04	.05	2	.41	.53
3/4	.05	.07	...	...	...

Cast Iron Floor Flanges



No. 340

Not Faced, Countersunk Holes for Screws

Size, In.	Each	Size, In.	Each
1/4 x 2 13/16	\$.10	1 x 4	\$.16
3/8 x 3	.10	1 1/4 x 4	.16
1/2 x 3 1/2	.15	1 1/2 x 4 1/2	.22
3/4 x 3 1/2	.15	2 x 5 1/2	.35

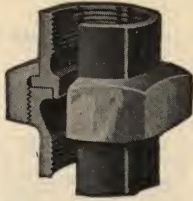
Galvanized take double list.

No. 10 Perfection Floor and Ceiling Plates

Nickel-plated or chromium-plated steel.



Size In.	Each	Size In.	Each	Size In.	Each
1/4	\$.27	1 1/4	\$.35	3 1/2	\$ 1.00
3/8	.28	1 1/2	.38	4	1.25
1/2	.29	2	.45	4 1/2	1.50
3/4	.30	2 1/2	.65	5	1.75
1	.32	3	.80	6	2.00

Standard Malleable Iron UnionsFor 150 Pounds Steam Working Pressure
Gasket Type

Size In.	Black Each	Galv. Each	Size In.	Black Each	Galv. Each	Size In.	Black Each	Galv. Each
1/8	\$.18	\$.27	1	\$.33	\$.50	3	\$2.10	\$3.15
1/4	.18	.27	1 1/4	.46	.70	3 1/2	3.65	5.50
3/8	.20	.30	1 1/2	.58	.90	4	4.35	6.50
1/2	.22	.33	2	.75	1.15	...	...	...
3/4	.27	.40	2 1/2	1.55	2.35	...	...	...

No. 512 Crane Malleable Iron Gem Unions

Brass to Iron Seat—Ground Joint

150 Pounds Steam Working Pressure
150 Lbs. Water Working Pressure, 200°F.

Light in weight; recommended for general service on steam and water. Also recommended for domestic fuel oil or domestic gas installations.



Size Inches	End to End Inches	Black Each	Galvanized Each
1/4	1 1/16	\$.45	\$.50
3/8	1 5/8	.45	.50
1/2	1 13/16	.50	.55
3/4	2 1/16	.60	.70
1	2 1/4	.80	.95
1 1/4	2 1/2	1.20	1.40
1 1/2	2 5/8	1.55	1.80
2	3	2.30	2.60
2 1/2	3 3/8	3.80	4.50
3	3 13/16	5.50	6.60

Crane Iron Body Foot Valves

With Strainer and Leather Disc



Sizes 3/4 to 6 Inches



Sizes 8 to 16 Inches

No. 394, Screwed				No. 395, Flanged			
Size In.	Plain Each	Galv. Each	Largest O.D. In.	Plain Each	Galv. Each	Largest O.D. In.	Diam. Flanges In.
3/4	\$1.15	\$1.75	3 3/4	...	...	...	...
1	1.30	2.00	3 3/4	...	...	...	...
1 1/4	1.40	2.10	4 1/8	...	...	...	...
1 1/2	1.90	2.85	4 3/4	...	...	...	...
2	2.40	3.60	5 1/2	\$3.50	\$5.50	6	6
2 1/2	3.30	5.00	6 1/4	4.50	7.00	7	7
3	3.90	5.75	7	5.75	9.00	7 1/2	7 1/2
3 1/2	5.60	8.50	8 7/8	7.50	12.00	8 7/8	8 1/2
4	7.30	11.00	8 7/8	9.50	15.00	9	9
5	11.25	16.75	10 1/2	14.00	22.00	10 1/2	10
6	14.75	22.00	11 3/4	17.50	27.00	11 3/4	11
8	41.00	62.00	15 1/8	45.00	72.00	15 1/8	13 1/2
10	64.00	110.00	18	70.00	120.00	18	16
12	100.00	155.00	20 1/4	112.00	170.00	20 1/4	19
14	...	...	...	150.00	...	...	21
16	...	...	...	200.00	...	...	23 1/2

No. 1 Marval Syphon Automatic Air Valves

All-metal construction; has rapid air eliminating capacity.

Thermostatic action is so sensitive as to distinguish between steam and heated air. The flotation action is positive and prevents any leakage or spitting of water.

Combination of fluted syphon and ample filtering capacity of valve shell and base keep valve free of water. Will not water-log.

In 1/8-inch angle pattern for cast iron radiators; 1/8 or 1/4-inch male straight pattern for convection radiators and for venting of piping; 3/4-inch male straight pattern for venting of piping. This size also has the connection tapped 3/8-inch female I.P.S.

Chrome finish. One in box; 12 in carton.

No. 1, 1/8-Inch Angle Pattern.....	each	\$1.60
No. 1, 1/8 or 1/4-Inch Male Straight Pattern.....	each	2.00
No. 1, 3/4-Inch Male Straight Pattern.....	each	2.15

No. 2 Marval Syphon Air and Vacuum Valves

Angle

This valve rapidly vents air from the system and seals it against further intrusion of air after the steam pressure drops. It keeps the system under a variable vacuum between firing up periods. The combination of the patented fluted syphon and the ample filtering capacity of the valve shell and base keep the valve entirely free of water. Valve cannot waterlog under any operating condition.

Packed individually.



Straight

1/8-In. Angle Pattern for Cast Iron Radiators....	each	\$2.40
1/8-In. or 1/4-In. Male Straight Pattern for Convection Radiators and for Venting Piping.....	each	2.80
*3/4-In. Male Straight Pattern for Venting Piping.....	each	2.95

*Also has the connection tapped 3/8-inch I.P.S.

Travall Automatic Air Valves

Non-Adjustable



Large capacity with silent, multi-port venting.

Highly sensitive thermostatic element; large float.

Syphon pipe designed to fit narrowest radiators.

Satin aluminum body with polished ribs.

One in a box; display carton of 12.

1/8 Inch, Angle Pattern.....	each	\$.85
1/8 Inch, Straight Pattern.....	each	1.20
1/4 Inch, Straight Pattern.....	each	1.20
3/4 Inch, Straight Pattern with 3/4-Inch Outside Thread and 3/8-Inch Inside Thread.....	each	1.35

4-In-1 Bakelite Valve Handles

Bottom View of Handle with Steel Plate Removed



Turn Plate to Desired Size Opening



Replace Plate in Handle

This valve handle of molded bakelite can be used on any popular size of radiator valve, gate valve, and any wheel handle valve.

Nos. 1 and 2 will fit four different valve stems. Nos. 3 and 4 will fit four larger sized stems. Nos. 1 and 3, for screw assembly valves. Nos. 2 and 4, for nut assembly valves. Packed 1 dozen in a carton.

Nos. 1 and 2.....	each	\$.20
Nos. 3 and 4.....	each	.30

Crane Brass Globe and Angle Valves

For 100 Pounds Steam Working Pressure



No. 1-B, Globe



No. 2-B, Angle

Size.....in.	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Each.....	\$1.90	2.40	3.00	3.60	5.00	7.00	10.60

The increased use of piping material in homes, small factories, farms, garages, water systems, etc., where the pressure does not exceed 100 pounds per square inch has created a demand for these valves. When wide open, they may be repacked while under pressure.

Crane Brass Globe and Angle Valves

For 125 Pounds Steam Working Pressures

When wide open may be repacked while under pressure.



No. 1, Globe

Size In.	SCRD., PRICE, EA.	
	No. 1 Globe	No. 2 Angle
1/8	\$1.80	\$1.80
1/4	1.80	1.80
3/8	1.90	1.90
1/2	2.40	2.40
3/4	3.00	3.00
1	3.60	3.60
1 1/4	5.00	5.00
1 1/2	7.00	7.00
2	10.60	10.60
2 1/2	20.00	20.00
3	27.50	27.50

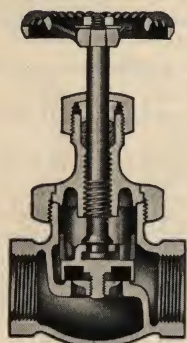


No. 2, Angle

Crane Brass Globe and Angle Valves

Union Bonnet with Brass Ring

150 Pounds Steam Working Pressure
For Cold Water, Oil, or Gas, Non-Shock:
Screwed Valves, 300 Pounds
Flanged Valves, 225 Pounds

No. 7, Globe
ScrewedNo. 7, Angle
Screwed

Valves for hot or cold water service will be furnished with Crane Renewable Discs at the same prices.

Fitted with Crane Steam Discs unless otherwise ordered.

Size Inches	No. 7, Screwed		No. 9, Flanged		Diameter Flanges Inches
	Each	Each	Globe Face to Face, In.	Angle Center to Face, In.	
1/8	\$2.40	.....	.....	.....	.....
1/4	2.60	.....	.....	.....	.....
3/8	3.00	.....	.....	.....	.....
1/2	3.60	.....	.....	.....	.....
3/4	4.70	\$13.00	3 3/4	2 7/8	3 7/8
1	6.60	15.00	4 3/8	2 9/16	4 1/4
1 1/4	8.60	23.00	4 13/16	2 7/8	4 5/8
1 1/2	12.00	28.00	5 1/2	3 3/16	5
2	19.00	42.00	6 1/2	3 3/4	6
2 1/2	34.00	63.00	7 1/2	4 5/16	7
3	48.00	86.00	8 7/8	4 5/8	7 1/2

No. 449 1/2 Crane Brass
Wedge Gate Valves

Non-Rising Stem, Screwed

For 100 Pounds Steam Working Pressure



A wedge gate valve with non-rising stem, suitable for installations where the pressure does not exceed 100 pounds steam working pressure.

It is lighter than the standard line of valves.

Size.....in.	1/4	3/8	1/2	3/4
Each.....	\$2.40	2.40	2.60	3.30
Size.....in.	1	1 1/4	1 1/2	2
Each.....	\$4.40	6.00	8.00	11.00

No. 438 Crane Brass Gate Valves

Wedge Disc—Non-Rising Stem

Screwed Ends

For 125 Pounds Steam Working Pressure

For general service on steam, water, oil, or gas lines.
Stuffing box is equipped with a gland.

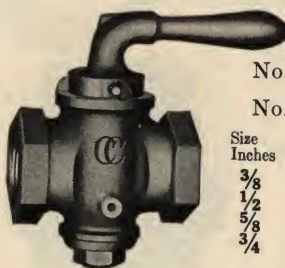
When wide open, can be repacked while under pressure.



Size In.	Each	End to End In.
1/4	\$2.40	1 3/4
3/8	2.40	1 13/16
1/2	2.60	2
3/4	3.30	2 1/4
1	4.40	2 11/16
1 1/4	6.00	3
1 1/2	8.00	3 1/4
2	11.00	3 11/16
2 1/2	19.00	4 1/4
3	28.00	4 11/16

Crane Rough Brass Stops

Flat-Way, Lever Handle



No. 804 1/2, without drain.

No. 806 1/2, with check and drain.

Size Inches	No. 804 1/2 Per Dozen	No. 806 1/2 Per Dozen
3/8	\$20.40	\$21.00
1/2	21.00	21.60
5/8	29.40	30.00
3/4	36.00	36.60
1	52.80	54.00
1 1/4	89.40	91.20
1 1/2	149.40	152.40
2	258.00	264.00

Crane Brass Steam
CocksFor 125 Lbs.
Steam Work.

Pressure
125 Lbs. Cold
Water, Oil,
or Gas,
Non-Shock
Air Tested



No. 250, Square Head

Size Inches	No. 250 Each	No. 254 Square Head with Check Each
1/4	\$0.85	.....
3/8	1.00	.....
1/2	1.25	\$1.40
3/4	1.70	1.90
1	2.35	2.55



No. 252, Flat Head

Size Inches	No. 250 Each	No. 254 Square Head with Check Each
1/4	\$3.70	\$3.95
1/2	4.85	5.15
2	7.30	7.65
2 1/2	14.50	.....
3	22.50	.....

No. 909 Brass Radiator Valves

With Renewable Disc and Union Outlet



Rough body, nickel-plated all over.

Size.....inches	1/2	3/4	1	1 1/4	1 1/2	2
No. 909.....each	\$1.45	1.65	2.00	2.50	3.20	5.00

No. 112 Crane Brass Radiator Valves

Composition Disc



Recommended for steam and vapor heating installations.

Equipped with a No. 8 low pressure composition disc, secured in the disc holder by a brass nut and washer.

The disc holder swivels on the stem.

Size.....inches	1/2	3/4	1	1 1/4	1 1/2	2
No. 112.....each	\$1.45	1.65	2.00	2.50	3.20	5.00

No. 26 Crane Brass Angle Check Valves

For 125 Pounds Steam Working Pressure



Size Inches	Price Each	Size Inches	Price Each	Size Inches	Price Each	Size Inches	Price Each
*1/8	\$1.80	1/2	\$2.40	1 1/4	\$5.00	2 1/2	\$20.00
*1/4	1.80	3/4	3.00	1 1/2	7.00	3	27.50
*3/8	1.90	1	3.60	2	10.60	...	....

*These sizes are ball disc type.

No. 20 Crane Brass Horizontal Check Valves

For 125 Pounds Steam Working Pressure



Size.....inches	*1/8	*1/4	*3/8	1/2	3/4	1
No. 20, Screwed....each	\$1.60	1.60	1.75	2.16	2.75	3.20
Size.....inches	1 1/4	1 1/2	2	2 1/2	3	
No. 20, Screwed....each	\$4.50	6.30	9.50	18.00	25.00	

*Ball disc type.

No. 7000 Compression Plain Faucets

For Iron Pipe



Size.....in.	3/8	1/2	*5/8	3/4	1	1 1/4
Rough.....ea.	.....	.....	.....	.....	.....	.....
Rough N.P.....ea.	.....	.....	.....	.....	.....	.....
Finished.....ea.	.....	.....	.....	.....	.....	.....
N.P.....ea.	.....	.....	.....	.....	.....	.....
C.P.....ea.	.....	.....	.....	.....	.....	.....

*Has 5/8 inch body but with 3/4 inch I.P.S. thread on shank.

No. 7001 Compression Hose Faucets

For Iron Pipe



Size.....in.	3/8	1/2	*5/8	3/4	1	1 1/4
Rough.....ea.	.....	.....	.....	.....	.....	.....
Rough N.P.....ea.	.....	.....	.....	.....	.....	.....
Finished.....ea.	.....	.....	.....	.....	.....	.....
N.P.....ea.	.....	.....	.....	.....	.....	.....
C.P.....ea.	.....	.....	.....	.....	.....	.....

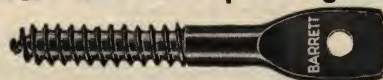
*Has 5/8 inch body but with 3/4 inch I.P.S. thread on shank.

Galvanized Pipe Straps



Size.....inches	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Per Pound.....	\$.30	.30	.30	.30	.30	.30	.30	.30
Weight per 100...pounds	2	3	3 1/4	5	7	8 1/2	9	11 1/2

Barrett Flat Head Pipe Hanger Screws



Cold rolled steel, black finish.				
Diameter.....inches	1/4	5/16	3/8	1/2
Per 100.....	\$8.00	10.00	12.00	20.00
Length Over All.....inches	3	3 1/2	4	4 1/2
Ship. Wt., per 100....pounds	3 3/4	5 1/2	9 1/2	19 1/2

Adjustable Steel Pipe Hangers



PER 100—		PER 100—		PER 100—	
Size	No. 733 Black	Size	No. 733A Galv.	Size	No. 733 Black
1/2	\$5.00	2	\$10.00	5	\$26.00
3/4	5.25	2 1/2	12.00	6	29.00
1	5.75	3	13.00	8	75.00
1 1/4	6.25	3 1/2	16.50	9	112.50
1 1/2	6.50	4	18.50		

No. 734 Extension Bars



Punched from mild steel. Cuts easily. Furnished in either 5 or 10 foot lengths.

Size No.....	00	0	1	2	3	4
Per 100 Feet.....	.....	.....	.....	.....	.....	.....
No. Feet per Bundle.	250	250	250	250	250	100

Detroit Self-Cleaning Water Gauges

50 Pounds Working Pressure



No. 151 has two guards and is furnished with rough body and steel wheels.

No. 155 has four guards and is furnished with polished square body and composition wheels.



No. 151
Two Guards

No. 155
Four Guards

I. P. Thread Inches	Size Glass Inches	No. 151 Each	No. 155 Each
3/8	5/8x10	\$2.75	.....
1/2	5/8x12	3.00	\$6.00
3/4	3/4x16	4.50	8.00

Standard Gauge Glasses

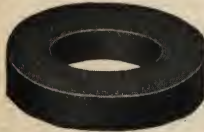
For 150 Pounds Steam Working Pressure



Lgth. In.	PER DOZEN EXTERNAL DIAM., IN.				Lgth. In.	PER DOZEN EXTERNAL DIAM., IN.			
	1/2	3/4	1	1 1/4		1/2	3/4	1	1 1/4
10	\$2.28	\$3.00	\$3.60	\$5.04	19	\$4.44	\$5.64	\$7.08	\$9.60
11	2.64	3.24	3.96	5.64	20	4.68	6.00	7.44	10.20
12	2.76	3.60	4.32	6.12	22	5.04	6.60	8.16	11.16
13	3.00	3.84	4.80	6.60	24	5.52	7.20	8.88	12.12
14	3.24	4.20	5.16	7.08	30	6.96	9.00	11.16	15.24
15	3.48	4.44	5.52	7.56	36	8.28	10.80	13.44	18.24
16	3.72	4.80	5.88	8.16	48	11.04	14.52	18.00	24.36
17	3.96	5.04	6.24	8.64	60	13.80	18.12	22.56	30.48
18	4.20	5.40	6.60	9.12	72	16.56	21.84	27.12	36.48

Lengths not regular charged the price of next longer tubes of same diameter. Prices on larger sizes upon application.

Rubber Gauge Glass Washers



No. 2011, Square

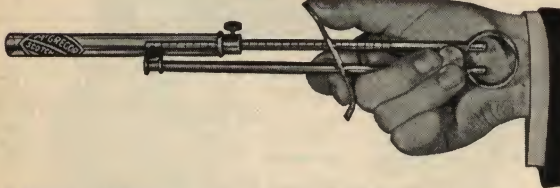
Size In.	No. 2011 Square per Doz.	No. 689 Round per Doz.
1/2	\$.36	\$.48
5/8	.36	.54
3/4	.36	.60



No. 689, Round

Chesterton Gauge Glass Cutters

Capacity, 6 Inches



A handy nickel-plated tool with a sliding lever that can be placed close to the work to obtain more power. Steel cutting wheel.

Individually boxed and packed in cartons containing 1/2 dozen and dozen cartons. Shipping weight per dozen, 4 1/8 pounds.

Each.....	\$2.00
Extra Cutter Wheels.....per dozen	2.40
Extra Pins.....per dozen	.20

Gauge Syphons

Coil Pipe



Size Connections	
.....inches	1/4x1/4
Iron.....each	\$.25
Brass.....each	1.00
Nickel-Plated, ea.	1.50

Type 1DP Marsh Standard Single Spring Pressure Gauges

Plain Drawn Case



For steam, water, air, gas, or any pressure medium which will not deteriorate brass.

Standard dial ranges available are from 15 to 600 pounds. Other dial ranges available on special order.

Gauges graduated above 600 pounds furnished without cock.

Unless otherwise ordered, a tee handle cock is furnished with gauges sizes 3 1/2 to 6 inches inclusive.

Size Dial....in.	2	2 1/4	2 1/2	3	3 1/2	4 1/2	5	6
*Each.....	\$2.00	2.20	2.40	2.88	3.48	4.16	6.56	17.10
†Each.....	\$3.40	3.60	3.80	4.28	4.88	6.56	8.96	24.50

*Black steel case, black or polished brass bayonet ring.
†Polished brass case, screwed ring.

Type 2DP Marsh Standard Vacuum Gauges

Drawn Plain Case



For use on any source of vacuum which will not deteriorate brass.

Standard dial graduation is to 30-inch mercury vacuum. Other ranges or combination dials can be furnished special upon application.

Where instrument is subjected to excessive pulsation or vibration, this gauge should not be installed, but a vacuum gauge of heavy construction will be furnished on special order. Unless otherwise ordered a tee handle cock is furnished with 3 1/2 to 6-inch gauges.

Size Dial....in.	2	2 1/4	2 1/2	3	3 1/2	4 1/2	5	6
Type 2DP, each	\$2.00	2.20	2.40	2.88	3.48	4.16	6.56	17.10

Type 3DP Marsh Standard Compound Pressure and Vacuum Gauges

Drawn Plain Case



For indication of both pressure and vacuum on same instrument where pressure medium will not deteriorate brass. Furnished standard with dial graduated 15, 30, 60, 120, 150 or 300-pound pressure and 30-inch vacuum. Pressure should be graduated to approximately double the actual working pressure. Install syphons under all gauges on steam service.

Prices are for black steel case with either black or polished brass bayonet ring. Unless otherwise ordered, a tee-handle cock is furnished with gauges, 3 1/2-inch and larger.

Size Dial....in.	2	2 1/4	2 1/2	3	3 1/2	4 1/2	5	6
Type 3DP, each	\$2.60	3.00	3.48	4.08	4.76	7.16	21.00	

Type 4DP Marsh Standard Altitude Gauges

Drawn Plain Case



Furnished standard with dial graduation to 70-foot height of water. Maximum dial graduation should always be at least double the highest elevation to be shown on instrument.

In addition to usual black indicating hand, equipped with red hand which is adjustable so that it may be set by user at height to be maintained. Unless otherwise ordered a tee handle cock is furnished with 3 1/2 to 6-inch gauges.

Prices are for black steel case with either black or polished brass bayonet ring.								
Size Dial.....in.	3	3 1/2	4 1/2	5	6			
Type 4DP.....each	\$3.08	3.68	4.36	6.76	21.00			

No. 5126 Taylor Indoor and Outdoor Wall Thermometers



Magnifying glass tubes filled with non-fading, easy-reading red liquid are mounted on colorful lithographed metal scales which in turn are mounted on assorted ivory, walnut, and natural finished wood backs.

The No. 5126-8" has outdoor temperature range; No. 5126-6" indoor range.

No.	5126-6"	5126-8"
Per Dozen	\$12.00	15.00
Size	6 inches	8
Weight per Dozen ... pounds	3	4

No. 5126-8"

No. 5400S Taylor Thermometers.



Has black-japanned tin case. Tube clasps, bulb guards, and screws are gold-plated. Glass tubes have magnifying front and are filled with a non-fading, easy reading red liquid.

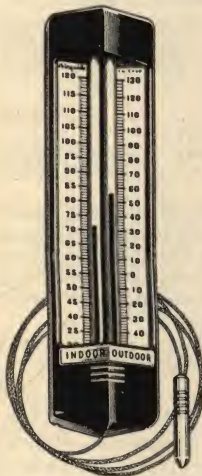
Has black figures and graduations on silvered brass scales.

Temperature range approximately 50°F. below zero to 120° above.

Packed 1 in a box, 12 to a carton.

Size	8 inches	12
No. 5400S	per dozen	\$20.00 30.00

No. 404 Indoor-Outdoor Thermometers



A thermometer which is located indoors and yet accurately indicates the outdoor temperature.

A small metal bulb is located outside the window and connected to the thermometer by means of extremely fine tubing.

Simply and permanently installed in a few moments.

Scale is black and silver and has twin thermometers, showing outdoor temperature and also room temperature.

Black bakelite case, chrome trim.

Height, 9½ inches. Width, 2¼ inches.

Packed individually.

Shipping weight, 3 pounds.

No. 404	each	\$6.00
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No. 1323 Taylor Sling Psychrometers



Two 5-inch-engraved stem thermometers, range 20° to 120° F., in 1° divisions, are

mounted on an aluminum frame.

Packed 1 in a box with leather case, spare wicks and chart.

No. 1323 Weight each, 5 ounces	each	\$10.13
Extra Wicks	per dozen	1.50

No. 5132 Taylor Outdoor Wall Thermometers



An outdoor thermometer with temperature range 20° to 60°F. below zero to about 120°F. above.

Magnifying glass tube is filled with non-fading, easy-reading red liquid, mounted on 7-inch white vitreous-enameled metal back with black figures and graduations.

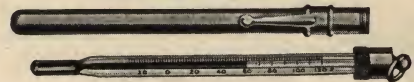
Flanged sides protect tube and scale. Has mounting lugs top and bottom.

Packed 1 in a box. Twelve in a carton; weight, 2¼ pounds.

No. 5132	per dozen	\$9.00
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Taylor Etched-Stem Glass Thermometers

Standard Quality



For full immersion in laboratory and general testing. Length, 5½ inches. Divisions, 2°.

No. 21412 is red liquid filled; No. 21418 is mercury filled, Binoc.

Supplied with metal pocket carrying case.

Packed 6 in a carton.

Weight per carton, about 14 ounces.

No.	21412	21418
Each	\$1.20	1.50
Range	degrees F. -30 to +120	0 to +220

Tycos Asphalt-Testing Thermometers

No. 21582

Length, 16 inches; in nickered armor; cap for protecting bulb; temperature range, 100° to 600° F. in 5° divisions.

No. 21582	each	\$5.50
-----------------	------	--------

No. 21583

Extra engraved thermometer for No. 21582.

No. 21583	each	\$3.50
-----------------	------	--------

No. 21588

Same as No. 21582 except temperature range is 200° to 750°F.

No. 21588	each	\$6.50
-----------------	------	--------

No. 21589

Extra engraved thermometer for No. 21588.

No. 21589	each	\$4.50
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No. 21594

Pocket thermometer; length, 6 inches; in nickered case with pocket clip; temperature range, 100° to 400°F. in 5° divisions.

No. 21594	each	\$3.00
-----------------	------	--------

No. 21595

Extra engraved thermometer for No. 21594.

No. 21595	each	\$2.50
-----------------	------	--------

No. 21560

Length, 10 inches; nickered armor case; protected bulb, approximate temperature range, 50° to 450°F. in 5° divisions.

No. 21560	each	\$4.50
-----------------	------	--------

No. 21566

Same as No. 21560 except approximate temperature range is 200° to 650°F.

No. 21566	each	\$5.25
-----------------	------	--------



No. 21560

**No. 4170 Johnson Improved Double Cone
Faucet Seat Dressers**



For reseating faucets, basin cocks, compression valves, etc. Can be used on inside or outside threaded fittings. Four cutters with each dresser.



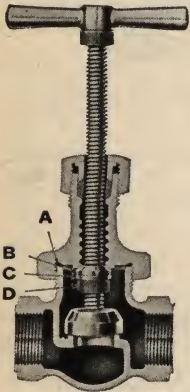
Cutters, sizes $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$ and $\frac{7}{8}$ inch diameter.

Packed one in a box. Weight each, 13 ounces.

Price, No. 4170each \$3.00

O'Malley Valve Reamers

Red Head, Automatic



Automatic feed, no guides, no chatter. Merely turn the handle—reaming perfectly smooth seat.

This reamer has several features of construction, as shown by the illustration—(A) The bonnet is screwed part way on, and rests on top of the automatic feed; (B) Centering cone is of brass; (C) Reamer-fibre; (D) Adjustable nut.

For $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$ and $\frac{3}{4}$ -inch faucets, built-in-tubs and showers and $\frac{1}{2}$, $\frac{3}{4}$ and 1-inch flat seat, all makes of valves.

Red Head.....each \$3.00

Large Valve Reamers

For $\frac{1}{4}$ to 2-inch valves.

Handle Complete.....each \$2.75

Combination Cutters

1-Inch Flat/ $\frac{1}{4}$ Conical 60 Degrees.....each \$3.80
 $\frac{1}{4}$ -Inch Flat/ $\frac{1}{2}$ Conical 60 Degrees.....each 4.40
 $\frac{1}{2}$ -Inch Flat/ $\frac{2}{2}$ Conical 60 Degrees.....each 5.90
2-Inch Flat/ $\frac{2}{2}$ Conical 60 Degrees.....each 6.90

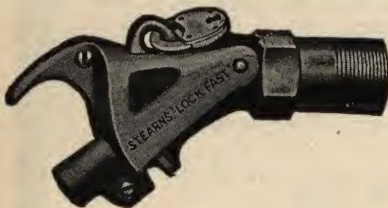
Complete Kits

For both conical and flat seat, $\frac{3}{8}$ to 2-inch.

Packed in a sturdy steel box.

Complete Kit (12 Cutters).....each \$30.00

Lockfast Oil and Molasses Gates



Locking gates furnished up to 2-inch inclusive.

Wood thread has tapered shank. Iron pipe thread has straight shank.

Prices do not include padlock.

Style A

WOOD THREAD			
Size In.	Per Doz. Jap.	Size In.	Per Doz. Jap.
$\frac{1}{2}$	\$16.50	$\frac{1}{4}$	\$20.35
$\frac{3}{4}$	17.00	$\frac{1}{2}$	24.20
1	17.60	2	33.00

Style E

U. S. OR WHITWORTH PIPE THREAD			
Size In.	Per Doz. Jap.	Size In.	Per Doz. Jap.
$\frac{1}{2}$	\$16.50	$\frac{1}{4}$	\$20.35
$\frac{3}{4}$	17.00	$\frac{1}{2}$	24.20
1	17.60	2	33.00

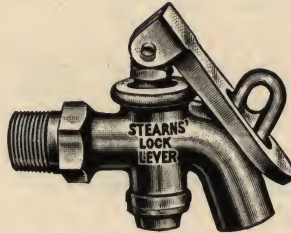
**No. 3001 Lock Lever
Plain Brass Faucets
For Iron Pipe
With Shoulder**



Rough finish.

Size, In.	Each	Size, In.	Each
$\frac{1}{2}$	1	....
$\frac{5}{8}$	$\frac{1}{4}$	....
$\frac{3}{4}$	$\frac{1}{2}$	....

No. 50 Stearns Lock-Lever Faucets



For use with non-corrosive liquids, such as petroleum products, other oils, turpentine, alcohol, lacquers, etc.

Made of close-grained grey iron, cadmium plated finish.

The plug is individually ground to the barrel, and a tight joint is maintained between the two by means of a spring washer.

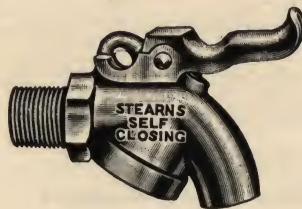
U.S. Standard pipe thread, $\frac{3}{4}$ inch; $\frac{3}{4}$ -inch flow.

Packed 6 in a box.

Weight each, $1\frac{1}{2}$ pounds.

No. 50.....each \$6.60

No. 60 Stearns Self-Closing Faucets



For use with non-corrosive liquids, such as petroleum products, other oils, turpentine, alcohol, lacquers, lacquer thinners, etc.

Made of close grained gray iron, cadmium plated finish.

The valve facing is a specially filled leather disc, impervious to liquids, which does not soften or harden.

U.S. Standard pipe thread, $\frac{3}{4}$ inch; flow, $\frac{3}{4}$ inch.

Packed 6 in a box.

Weight each, $1\frac{1}{4}$ pounds.

No. 60.....each \$6.60

**Sherman Angle Pattern Lawn
Faucets**



Furnished with combination wheel and loose key handle. Can be furnished with loose key instead of wheel handle if so specified.

Rough nickel plated with semi-finished bonnet.

By removing the screw, the handle will operate as a loose key.

Size, $\frac{1}{2}$ or $\frac{3}{4}$ -inch I.P. thread.

Weight per dozen, 12 pounds.

No. 508, with Loose Wheel Handle.....each

No. 509 Loose Key, Addeach

MATERIAL NOT LISTED

We can furnish practically everything used in mill, factory, or shop.

Please send us all of your inquiries.

Tee Handle Air Cocks Straight Nose



No.	6	7	*8	*9
Size.....inches	1/8	1/4	3/8	1/2
Each.....	\$.40	.45	.50	.60
No.	*10	*63T	*64T	...
Size.....inches	3/4	1 1/8	1 1/4	...
Each.....	\$.90	.45	.50	...

*With hexagon shoulder.

With spring and washer, 15 cents extra.

Lever Handle Air Cocks



No.	12	13	*14	*15
Size.....inches	1/8	1/4	3/8	1/2
Each.....	\$.55	.60	.65	.75
No.	*16	*63L	*64L	...
Size.....inches	3/4	1 1/8	1 1/4	...
Each.....	\$ 1.15	.60	.65	...

*With hexagon shoulder.

Can be furnished with spring and washer at \$1.15 extra.

Tee Handle Air Cocks

Female Both Ends



No.	37	38	*38L	39	39 1/2
Size.....inches	1/8	1/4	1/4	3/8	1/2
Each.....	\$.65	.70	.65	.85	1.10

*Lightweight.

Can be furnished with spring and washer at 15 cents extra.

Lever Handle Air Cocks

Male Both Ends

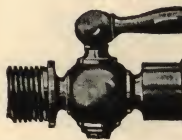


No.	22	23	24	25
Each.....	\$.70	.80	.90	1.05
Size.....inches	1/8	1/4	3/8	1/2

For spring key and washer, add 15 cents.

Lever Handle Air Cocks

Male and Female Ends



No.	Each	Size In.
46	\$.90	1/8
47	.95	1/4
48	1.05	3/8
48 1/2	1.30	1/2

For Spring key and washer, add 15 cents.

Imperial Brass Shut-Off Cocks



Each plug is individually ground into a perfect seat and held tight by a coiled spring at the bottom.

Cat. No.	89-EF	79-EF
O.D. Tubing.....inches	1/4	5/16
I.P. Thread.....inches	1/8	1/8
Each.....	\$ 1.45	1.55

Imperial Dual-Annealed Copper Tubing

For automotive and general use. Tubing is seamless, deoxidized, bright annealed, and cold drawn from copper. Uniform temper; free from scale, slivers, etc.

Packed one exact 25-foot coil to a carton.



O.D. In.	Wall Gage In.	Approx. Ft. per Lb.	Wt. Lb. per Coil
1/8	.032	27.7	.9
5/32	.032	20.6	1.21
3/16	.032	16.4	1.525
1/4	.032	11.8	2.125
5/16	.032	9.1	2.75
3/8	.032	7.5	3.35
7/16	.032	6.3	3.95
1/2	.032	5.5	4.55
5/8	.032	4.3	5.775
3/4	.032	3.6	7.0

Imperial Brass Gasoline Shut-Off Cocks

Compression Coupling Types



Nos. 27-EF to 57-EF



Nos. 28-EF to 58-EF

Each plug is individually ground into the body to a perfect seat and is held by a coiled spring at bottom.

A notched washer locks the plug in both open and shut positions. The square on threaded side gives a broad bearing for the wrench.

Handle is polished, body is bright brass finish.

Packed 5 in a box.

No.	CONNECTIONS, INCHES Tubing Coupling	I. P. Thread	Weight Pounds per 100	Price Each
27-EF	1/4	1/8	22 1/2	\$1.30
227-EF	1/4	1/4	24	1.40
29-EF	5/8	1/8	22 1/2	1.30
229-EF	5/8	1/4	25	1.40
57-EF	3/8	1/4	32 1/2	1.45

No.	CONNECTIONS, INCHES Tubing Coupling	I. P. Thread	Weight Pounds per 100	Price Each
28-EF	1/4	..	24	\$1.30
30-EF	5/8	..	25	1.40
58-EF	3/8	..	31	1.70

Imperial Brass Gasoline Shut-Off Cocks

S.A.E. Coupling Type

Plug is ground into body and held by a phosphor bronze coiled spring at the bottom. Handle is polished; body is bright brass finish. Without nuts.

Packed 5 in a standard package.



No.	Each	O.D. Tubing In.	Wt. Lbs. per 100 I.P.T. In.
27SAE	\$1.20	1/4	1/8 22
227SAE	1.30	1/4	1/4 22 1/2
29SAE	1.20	5/16	1/8 22 1/2
229SAE	1.40	5/16	1/4 23
57SAE	1.50	3/8	1/4 27 1/2

Imperial Brass Shut-Off Cocks

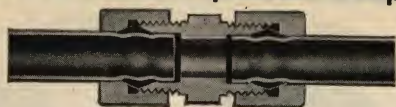


Each plug is individually ground into the body to a perfect seat and is held tight by a coiled spring at the bottom.

Cocks are packed 5 in a box.

No.	76-EF	75-EF
Each.....	\$1.05	1.10
Size, O.D. Tubing.....inches	1/4	5/16
Size, I.P. Thread.....inches	1/8	1/8
Weight per 100.....pounds	8	12 1/2

Imperial Brass Compression Couplings



No. 60-F Sleeves

No. 63-F Check Valves



O.D. of Tube Inches	*Per 100	Std. Pkg.
1/8	\$2.00	50
5/32	2.50	15
3/16	2.00	100
1/4	2.00	100
5/16	2.50	100
3/8	3.50	50
7/16	6.50	15
1/2	10.50	15
5/8	14.50	10
3/4	21.00	10

O.D. of Tube Inches	*Per 100	Pipe Thread Inches	Std. Pkg.
1/8	\$33.00	1/8	5
3/16	34.00	1/8	5
1/4	36.00	1/8	5
5/16	39.00	1/8	5
3/8	52.00	1/4	5
1/2	123.00	3/8	5

No. 61-F Nuts

No. 66-F Female
Couplings

O.D. of Tube Inches	*Per 100	Std. Pkg.
1/8	\$5.00	15
5/32	7.00	10
3/16	5.50	15
1/4	6.00	25
5/16	8.00	25
3/8	10.00	15
7/16	18.00	10
1/2	21.00	10
5/8	31.00	10
3/4	38.50	10

O.D. of Pipe Inches	*Per 100	Pipe Thread Inches	Std. Pkg.
1/8	\$17.00	1/8	10
3/16	18.00	1/8	10
1/4	20.00	1/8	15
5/16	22.00	1/8	15
3/8	40.00	1/8	10
1/2	86.00	3/8	5
5/8	125.00	1/2	..
3/4	200.00	1/2	..

No. 62-F Unions

No. 67-F Female
Couplings

O.D. of Tube Inches	*Per 100	Std. Pkg.
1/8	\$22.00	10
5/32	28.00	5
3/16	23.00	10
1/4	25.00	15
5/16	31.00	15
3/8	39.00	10
7/16	73.00	5
1/2	95.00	10
5/8	145.00	5
3/4	209.00	5

O.D. of Tube Inches	*Per 100	Pipe Thread Inches	Std. Pkg.
3/16	\$32.00	1/4	5
1/4	32.00	1/4	10
5/16	40.00	1/4	10
3/8	42.00	1/4	10
7/16	72.00	1/4	5
5/8	125.00	1/2	5

No. 68-F Connections



O.D. of Tube Inches	*Per 100	Pipe Thread Inches	Std. Pkg.
1/8	\$14.00	1/8	10
3/16	15.00	1/8	15
1/4	17.00	1/8	50
5/16	22.00	1/4	15
3/8	20.00	1/8	25
5/16	25.00	1/4	15
3/8	31.00	1/8	10

*Prices include nuts and sleeves.
†The same tubing size is furnished in various iron pipe thread sizes. This size is standard.

Imperial Brass Compression Couplings

No. 65-F Elbows

No. 64-F Tees

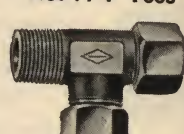


O.D. of Tube Inches	*Per 100	Std. Pkg.
1/8	\$33.00	5
3/16	35.00	5
1/4	36.00	10
5/16	45.00	10
3/8	51.00	10
7/16	92.00	5
1/2	109.00	5
5/8	190.00	..
3/4	242.00	..

O.D. of Tube Inches	*Per 100	Std. Pkg.
1/8	\$39.00	5
3/16	40.00	5
1/4	44.00	15
5/16	48.00	10
3/8	66.00	10
7/16	120.00	5
1/2	180.00	5
5/8	251.00	..
3/4	351.00	..

No. 69-F Elbows

No. 71-F Tees



O.D. of Tube Inches	*Per 100	Pipe Thread Inches	Std. Pkg.
1/8	\$24.00	1/8	10
3/16	25.00	1/8	15
1/4	26.00	1/8	25
5/16	31.00	1/4	15
3/8	32.00	1/8	25
7/16	40.00	1/4	15
1/2	46.00	1/8	10
5/8	49.00	1/4	15
3/4	77.50	3/8	..
1/2	87.00	1/4	5
1/2	106.00	3/8	10
1/2	152.00	1/2	..
5/8	152.00	1/2	5
3/4	198.00	1/2	5

O.D. of Tube Inches	*Per 100	Pipe Thread Inches	Std. Pkg.
1/8	\$32.00	1/8	5
3/16	34.00	1/8	5
1/4	40.00	1/8	10
5/16	44.00	1/8	10
3/8	57.00	1/4	5
7/16	104.00	1/4	5
1/2	158.00	3/8	5
5/8	207.00	1/2	5
3/4	280.00	1/2	5

No. 72-F Tees



No. 70-F Elbows



O.D. of Tube Inches	*Per 100	Pipe Thread Inches	Std. Pkg.
1/8	\$22.00	1/8	5
3/16	25.00	1/8	5
1/4	28.00	1/8	10
5/16	36.00	1/8	10
3/8	52.00	1/4	5
7/16	73.00	1/4	5
1/2	101.00	3/8	5

O.D. of Tube Inches	*Per 100	Pipe Thread Inches	Std. Pkg.
1/8	\$32.00	1/8	5
3/16	34.00	1/8	5
1/4	40.00	1/8	10
5/16	44.00	1/8	10
3/8	57.00	1/4	5
7/16	104.00	1/4	5
1/2	158.00	3/8	5
5/8	210.00	1/2	5
3/4	280.00	1/2	5

No. 76-F Male and
Female TeesNo. 73-F Elbow
Check Valves

O.D. of Tube Inches	*Per 100	Pipe Thread Inches	Std. Pkg.
1/8	\$37.00	1/8	5
3/16	40.00	1/8	5
1/4	43.00	1/8	5
5/16	52.00	1/8	5
3/8	66.00	1/4	5

O.D. of Tube Inches	*Per 100	Pipe Thread Inches	Std. Pkg.
1/8	\$40.00	1/8	15
3/16	44.00	1/8	15
1/4	48.00	1/8	15
5/16	53.00	1/8	15
3/8	60.00	1/4	..

*Prices of fittings include nuts and sleeves.

Imperial S.A.E. Brass Tube Couplings
For Connecting Brass and Copper Tubing



Union Nuts

O.D. Tube	No. 41-F Per 100	S.A.E. Std. Lgth. Thrd. Pkg.
1/8	\$10.00	5/16x24 15
3/16	11.00	5/16x24 25
1/4	13.00	5/16x20 50
5/16	17.00	1/2x20 50
3/8	25.00	1/2x18 25
7/16	34.00	1/2x16 10
1/2	46.00	1/2x16 10
5/8	74.00	1/2x14 ..
3/4	101.00	1/2x14 ..



No. 41-F



No. 41FS



No. 42-F Union Couplings

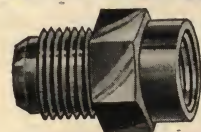
O.D. Tube In.	*Per 100 No Nuts Included	S.A.E. Thread In.	Std. Thread In. Pkg.
1/8	\$17.00	3/8x24	10
3/16	19.00	3/8x24	25
1/4	21.00	1/2x20	25
5/16	23.00	1/2x20	25
3/8	35.00	5/8x18	25
7/16	45.00	1 1/8x16	10
1/2	55.00	3/4x16	10
5/8	92.00	7/8x14	..
3/4	130.00	1 1/8x14	..



No. 43-F Ball Check Valves

O.D. Tube In.	*Per 100 No Nuts Included	S.A.E. Thread In.	Pipe Thread In. Pkg.
3/16	\$32.00	3/8x24	1/8 10
1/4	34.00	1/2x20	1/8 10
5/16	38.00	1/2x20	1/8 10
3/8	52.00	5/8x18	1/4 10
7/16	64.00	1 1/8x16	1/4 10
1/2	75.00	3/4x16	3/8 10

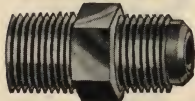
Female Couplings



O.D. Tube In.	No. 46-F Per 100	S.A.E. Thread In.	Pipe Thread In. Pkg.
3/16	\$16.00	3/8x24	1/8 ..
1/4	17.00	1/2x20	1/8 15
5/16	20.00	1/2x20	1/8 15
3/8	32.00	5/8x18	1/4 15
7/16	43.00	1 1/8x16	1/4 10
1/2	52.00	3/4x16	3/8 10
5/8	112.00	7/8x14	1/2 ..
3/4	165.00	1 1/8x14	1/2 ..

*Prices do not include nuts. †Same tubing size furnished in various iron pipe thread sizes. This size is standard.

No. 48-F Half Union Couplings



O.D. Tube In.	*Per 100 No Nuts Included	S.A. E. Thread In.	Pipe Thread In. Pkg.
1/8	\$11.00	5/16x24	1/8 15
3/16	12.00	3/8x24	1/8 15
1/4	13.00	1/2x20	1/8 50
5/16	22.00	1/2x20	1/4 25
3/8	17.00	1/2x20	1/8 50
7/16	24.00	1 1/8x16	1/4 25
1/2	35.00	5/8x18	1/4 25
5/8	45.00	5/8x18	1/8 25
3/4	32.00	1 1/8x16	1/4 10
1 1/2	38.00	3/4x16	3/8 10
1 1/2	45.00	7/8x14	1/2 ..
3/4	90.00	1 1/8x14	1/2 ..
3/4	100.00	1 1/8x14	1/2 ..



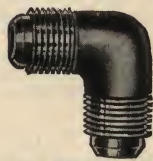
No. 49-F Elbows

O.D. Tube In.	*Per 100 No Nuts Included	S.A. E. Thread In.	Pipe Thread In. Pkg.
1/8	\$18.00	5/16x24	1/8 15
3/16	19.00	3/8x24	1/8 15
1/4	20.00	1/2x20	1/8 50
5/16	29.00	1/2x20	1/4 25
3/8	23.00	1/2x20	1/8 50
7/16	35.00	1 1/8x16	1/4 25
1/2	41.00	5/8x18	1/4 25
5/8	44.00	5/8x18	1/8 25
3/4	60.00	1 1/8x16	1/4 10
1 1/2	52.00	3/4x16	3/8 10
1 1/2	60.00	7/8x14	1/2 ..
3/4	140.00	1 1/8x14	1/2 ..
3/4	190.00	1 1/8x14	1/2 ..



No. 50-F Elbows

O.D. Tube In.	*Per 100 No Nuts Included	S.A. E. Thread In.	Pipe Thread In. Pkg.
3/16	\$23.00	3/8x24	1/8 10
1/4	24.00	1/2x20	1/8 15
5/16	28.00	1/2x20	1/8 15
3/8	60.00	5/8x18	1/4 15
7/16	80.00	1 1/8x16	1/4 10
1/2	110.00	3/4x16	3/8 10
5/8	160.00	7/8x14	1/2 ..
5/8	160.00	7/8x14	1/2 ..



No. 55-F Elbows

O.D. Tube In.	*Per 100 No Nuts Included	S.A. E. Thread In.	Pipe Thread In. Pkg.
1/4	\$24.00	1/2x20	1/8 15
5/16	25.00	1/2x20	1/8 15
3/8	40.00	5/8x18	1/8 15
7/16	60.00	1 1/8x16	1/4 10
1/2	65.00	3/4x16	3/8 10
5/8	140.00	7/8x14	1/2 ..
3/4	200.00	1 1/8x14	1/2 ..

Jenkins Hy-Lo Air Guns

With Special No. 946 Disc

For 150 Pounds Air Pressure



No. 610, with Lever Handle



No. 609, with Push Button



Flat Tip B



Pointed Tip C



Extension Tip D

For use on compressed air lines for blowing dust, dirt, chips, lint, filings, sand, borings and other matter. It prevents air waste and saves air at the point of use. Permits extremely close regulation of flow.

Each gun is cast of high grade bronze and is carefully machined, assembled, inspected and tested. Regularly fitted with a rounded tip, these guns can be furnished with flat, pointed or extension tip as may be required.

The lever of No. 610 is malleable iron, enameled green, and shaped to fit the palm of the hand for easy operation.

Fitted with specially compounded disc, which assures perfect tightness.

Size Inches	Nos. 609 and 610 Each	Nos. 610B and 609B, with Flat Tip B Each	Nos. 610C and 609C, with Pointed Tip C Each	Nos. 610D and 609D, with Extension Tip D Each	Approx. Weight Ounces
1/8	\$3.20	\$4.20	\$3.20	\$4.70	8
1/4	3.20	4.20	3.20	4.70	8
3/8	3.70	4.70	3.70	5.20	9

Hose Nipples



Size	1/8-Inch Hose	1/4-Inch Hose	3/8-Inch Hose
1/8-Inch Hose	\$1.00	1.00	1.00
1/4-Inch Hose	1.20	1.20	1.30
3/8-Inch Hose	1.40	1.40	1.50

No. 41-A Imperial Blow Guns



Useful in shops for cleaning gasoline and oil lines, blowing away chips, filings, dust and dirt; in paint spray outfits for blowing moisture out of joints and crevices and removing dust from surfaces.

Operates on compressed air.

No. 41-A	each	\$2.25
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Lincoln Kleenseal Standard Grease Guns



No. 5933

Linpak nozzle provides a quick, positive seal against Kleenseal, Zerk and hydraulic fittings and permits a wide range of angularity.

Palm and finger grip permits one-hand operation. Closely fitted, ground and polished steel plunger prevents by-passing of lubricant.

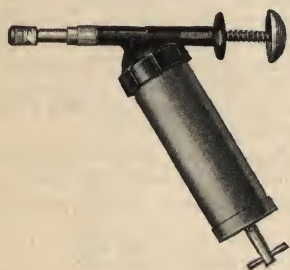
Heavy, coarse, non-crossable threads make it easy to remove and replace barrel without danger of stripping threads. Follower assembly equipped with two heavy cup leathers back-to-back, preventing leakage and assuring positive vacuum for suction filling.

Lubricant barrel finished in dull nickel, pumping head in black baked enamel.

No.	5933	5929	1000	1005	1025
Each.....	\$2.30	3.45	5.75	6.90	8.00
Capacity.....oz.	3½	5¼	9	14	18
Barrel Diam.....in.	1½	1½	2½	2½	2¾
*Barrel Length.....in.	6	8¾	7¾	12	12
Max. Pressure.....lb.	5000	5000	5000	5000	2000
Weight.....lb.	1¾	1	3½	4	5

*Length of tube only.

No. 1016 Lincoln Kleenseal Utility Grease Guns



Linpak nozzle provides a quick, positive seal against Kleenseal, Zerk and hydraulic fittings and permits a wide range of angularity.

Heavy, coarse, non-crossable threads. Heavy steel grease barrel withstands hard usage. Follower rod is rigidly fastened to follower assembly so that the distance by which it protrudes indicates amount of lubricant in the barrel.

Attractively finished, with the lubricant barrel in dull nickel and the pumping head in black baked enamel. Ground and polished steel plunger.

Gun capacity, 9 ounces. Barrel diameter, 2½ inches. Length of tube, 6¼ inches. Piston diameter, ¾ inch. Maximum pressure, 5,000 pounds.

Shipping weight, 3¼ pounds.

No. 1016 each \$4.00

Lincoln Kleenseal Filler Type Grease Guns



No. 1004

Designed for special service in which frequent refilling is required.

Equipped with Linpak nozzle for servicing machinery equipped with Kleenseal, Zerk or hydraulic fittings.

Filler tube permits filling gun through tube from a gun filler.

Lubricant barrel finished in dull nickel and pumping head in black baked enamel.

No.	1004	1006	1029
Each.....	\$7.50	8.65	9.75
Capacity.....ounces	9	14	18
Barrel Diam.....inches	2½	2½	2¾
*Barrel Length.....inches	7¾	12	12
Max. Pressure.....pounds	5000	5000	2000
Weight.....pounds	4	4½	5½

*Length of tube only.

Lincoln High Pressure Grease Guns

Capacity, 30 Pounds



Will handle lubricants ranging from light cup greases to heavy fibrous types.

Recommended for lubricating all types of machinery, farm implements, contractors' equipment, automobiles and trucks.

Pressure, 3500 pounds. Height, 20½ inches; diameter, 8¾ inches.

Container finished in white enamel with red lid.

No. 1230. Gun with No. 737, 7-foot high pressure hose and handle assembly with No. 5801 nozzle for contacting all push type fittings; weight, 24 pounds.....each \$42.50

No. 1231. Gun, with same attachments as No. 1230, and also includes No. 719 swivel adapter for pin type fittings; weight, 24 pounds.....each \$47.50

No. 1232. Gun, with same attachments as No. 1230, and also includes No. 723 swivel adapter for large button head fittings; weight, 24 pounds.....each \$49.50

Lincoln Kleenseal Standard Lever Grease Guns

High Pressure Type—Capacity, 18 Ounces



No. 1061

For use where high pressure is required to force lubricant through a fitting into closely fitted bearings, such as in automobiles, trucks, tractors, implements and machinery. Pressure, 10,000 pounds.

Barrel length, 12 inches; diameter, 2¾ inches.

Lubricant barrel finished in dull nickel and pumping head in black baked enamel.

No. 1061. Equipped with No. 5831 extension nozzle assembly which includes No. 5801 Kleenseal needle type nozzle for contacting all push type fittings. Weight, 7½ pounds. Each.....\$10.75

No. 1058. Gun only with ½-inch female pipe thread outlet to receive any Lincoln lever gun hose or Lincoln metal whip hose. Weight, 7 pounds.....each \$9.50

Volume Type—Capacity, 18 Ounces

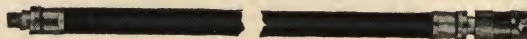
For use where a combination of moderate pressure and large volume is required for lubrication of large bearings on tractors, implements and machinery. Pressure, 2000 pounds.

Barrel length, 12 inches; diameter, 2¾ inches.

No. 1063. Equipped with No. 5830 extension nozzle assembly which includes No. 5821 Linpak nozzle for contacting all push type fittings. Weight, 7½ pounds.....each \$10.75

No. 1059. Gun only with ½-inch female pipe thread outlet to receive any Lincoln lever gun hose or Lincoln metal whip hose. Weight, 7 pounds.....each \$9.50

No. 3030 Lincoln Hand Grease Gun Hose



For use with Standard, Utility and Filler Type Kleenseal and other makes of hand grease guns. Hose is complete with swiveling pin-type coupler for contacting pin type fittings and a ½-inch male pipe thread connector for fastening to gun. Length, 12 inches. Shipping weight, 12 ounces.

No. 3030.....each \$1.45

Lincoln Pin Type Lubricating Fittings

1/8-Inch Pipe Thread



No. 5603
1" Overall
Each \$0.06



No. 5645, 45° Elbow
1 1/16" Overall
Each \$0.14



No. 5675, 90° Elbow
1 3/32" Overall
Each \$0.14

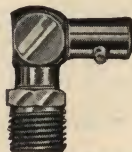
1/4-Inch Pipe Thread



No. 5625
1 7/32" Overall
Each \$0.12



No. 5646, 45° Elbow
1 29/32" Overall
Each \$0.21



No. 5676, 90° Elbow
1 7/16" Overall
Each \$0.19

Lincoln Button Head Lubricating Fittings



No. 5710
3/8" P.T.
1" Overall
Each \$0.18



No. 5705
1/4" P.T.
2 7/32" Overall
Each \$0.14



No. 5700
3/4" P.T.
3 1/4" Overall
Each \$0.12



No. 5713
1" P.T.
1" Overall
Each \$0.27

Nos. 5710, 5705 and 5700 are standard button head fittings machined from high grade steel and case hardened.

No. 5713 is a special heavy lubricant fitting. A specially designed check valve permits a larger passage through the fitting to accommodate a volume flow of heavy lubricant.

Lincoln Lever Grease Gun Hose Assemblies



Nos. 3040 and 3041

For use with Kleenseal lever type and other high pressure hand guns for contacting pin type or button head fittings.

Light in weight and will withstand pressures up to 10,000 pounds.

No. 3040. A 12-inch hose with swiveling pin type coupler for contacting pin type fittings and has 1/8-inch male pipe thread connector at opposite end.....each **\$3.80**

No. 3041. An 18-inch hose with same fittings as No. 3040. Each.....**\$4.20**

No. 3034. A 12-inch hose, same as No. 3040, except has a standard button head coupler and swivel at opposite end. Each.....**\$5.25**

No. 3033. An 18-inch hose, same as No. 3041, except has a standard button head coupler and swivel at opposite end. Each.....**\$5.65**

Lincoln Kleenseal Lubricating Fittings

Illustrations Approximately 3/4 Actual Size

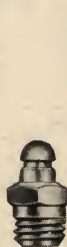
Used by manufacturers of automobiles, farm implements, trucks, tractors and machinery of all kinds.

Constructed with a spherical head which not only offers the greatest possible protection against damage, but lends itself to quickest and cleanest contact by all push type nozzles.

All fittings have spring and ball check and are case hardened to give long service.

1/8-Inch Pipe Thread

Straight



No. 5000
1 1/16" Overall
Each \$0.06



No. 5003
1 3/16" Overall
Each \$0.15



No. 5007
1 3/4" Overall
Each \$0.16



No. 5500
Water Pump
with Cap
1 1/16" Overall
Each \$0.15



No. 5505
Female Thread
1 1/16" Overall
Each \$0.12

Elbow



No. 5100
30° Elbow
1 3/32" Overall
Each \$0.09



No. 5300
67 1/2° Elbow
7/8" Overall
Each \$0.09



No. 5308
67 1/2° Elbow
1 1/16" Overall
Each \$0.18



No. 5400
90° Elbow
2 7/32" Overall
Each \$0.09

1/4-Inch Pipe Thread

Straight and Elbow



No. 5050
3 1/32" Overall
Each \$0.14



No. 5350
67 1/2° Elbow
1 1/8" Overall
Each \$0.18



No. 5506
Female Thread
1 3/16" Overall
Each \$0.20

No. 1208 Lincoln Kleenseal Grease Gun Fillers

Capacity, 40 Pounds



Provides a fast, clean and easy method of filling filler type grease guns and also keeps grease free of harmful grit and impurities.

Gun is filled by removing plug from filler tube of gun and placing tube on filling nipple of pump. A few strokes quickly fills the gun. A hanger is attached to grease container of pump to provide support for grease gun when not in service. Pump handle, when raised to a vertical position, provides a convenient

means of carrying gun filler.

Pump proper is removed for filling container.

White baked enamel finish with red top and black base.

No. 1208—Weight, 24 Pounds.....each **\$10.75**

• MATERIAL NOT LISTED •

All the goods we can furnish are not listed in this catalog.

If you don't find everything you need, please advise us and we will promptly send manufacturers catalogs.

Plews Force Feed Machinery Oilers

Upright Spouts



No leather valves or plungers to deteriorate. Entire working assembly is easy of access in one detachable unit. Has brass cone-shaped tip on spout. Will pump any oil that will flow. Lever handle makes it easy to operate and gives perfect control.

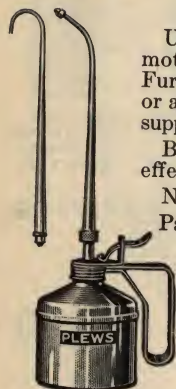
Cadmium plated balls and bronze springs prevent rusting of valves.

Nickel plated finish.

No.	Each	Cap. Pints	Spout Inches	No. in Carton	Weight Pounds
10	\$1.25	$\frac{7}{8}$	7	12	9
30	1.35	$\frac{7}{8}$	9	12	10
35	1.75	$1\frac{1}{2}$	9	12	12
45	2.25	2	11	6	9

No. 45-DRS Plews Force Feed Oilers

Capacity, 1 Quart



Used for all types of machinery and automotive service work. Furnished with detachable spout, vertical or arched type. Vertical type, 11-inch length, supplied unless otherwise specified.

Brass cone shaped tip on spout for clean and effective oiling.

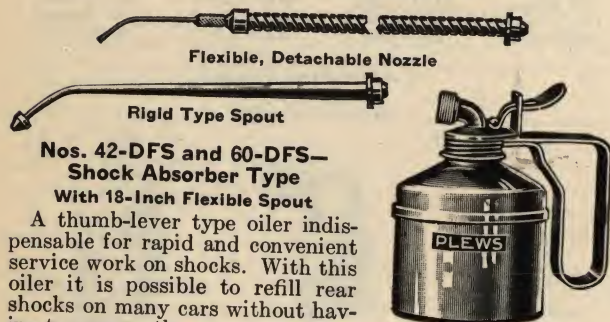
Nickel-plated finish.

Packed 1 in a carton; weight, 18 pounds.

With 11-Inch Vertical Spout. ea.	\$2.35
With 16-Inch Vertical Spout. ea.	2.60
With 26-Inch Vertical Spout. ea.	2.75
With 13-Inch Arched Spout. ea.	2.75

Longer spouts to reach overhead shafting can be supplied on special order.

Plews Force Feed Oilers



Flexible, Detachable Nozzle

Rigid Type Spout

Nos. 42-DFS and 60-DFS—Shock Absorber Type With 18-Inch Flexible Spout

A thumb-lever type oiler indispensable for rapid and convenient service work on shocks. With this oiler it is possible to refill rear shocks on many cars without having to remove them.

The small vent tube on the detachable nozzle is of copper and may be bent to any desired shape. It is inserted through the filler hole into the oil reservoir in rear shocks thus preventing the formation of bubbles or air locks in the filler duct or the oil chamber.

This oiler will dispense heavy lubricants such as castor oil, 600W, etc. Nickel plated finish.

Shipping weight per dozen, approximately 18 pounds.

No.	Each	42-DFS	60-DFS
Capacity		$1\frac{1}{2}$ Pints	1 Quart
		\$2.40	3.00

Nos. 42-DRS and 60-DRS—Machinery and Automotive Type With Rigid Detachable Spout

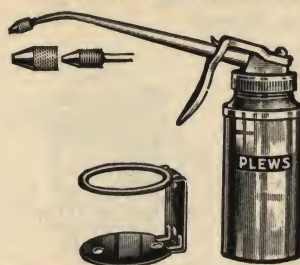
This standard pattern pump oiler is used very widely in the lubrication of all kinds of machinery.

Polished nickel finish.

Shipping weight per dozen, approximately 18 pounds.

	No. 42-DRS	No. 60-DRS
Length Spout. inches	10	16
Each	\$2.00	2.25
Capacity	$1\frac{1}{2}$ Pts.	$1\frac{1}{2}$ Pts.
	1 Qt.	1 Qt.

Plews Force Feed Pistol Oilers



Capacity, 6 Ounces

Will project oil a distance of 15 or 20 feet.

Constructed of metal. No leather plungers or valves. Polished nickel finish.

Length spout, 6 inches.

Height oiler, 5 inches.

Weight per dozen, 9 lbs.

No. 100, Forged Brass Cap, New Pattern Holder, Double-Tip Vent, Packed 1 in a box.	per doz.	\$13.00
No. 1100, Pressed Steel Cap, New Pattern Holder, Double-Tip Vent, Packed 1 in a box.	per doz.	16.20
No. 1105, Single Cone Tip on Spout, No Holder, Copper Plated Finish, Indiv. Wrapped.	per doz.	12.00

Plews Machinery Force Feed Oilers

Angle Spouts



No leather valves or plungers to deteriorate. The entire working assembly is easy of access in one detachable unit.

Has brass cone-shaped tip on spout. Will pump any oil that will flow. The lever handle makes it easy to operate. Cadmium plated balls and bronze springs prevent rusting of valves.

The lower section of the body is of one-piece drawn steel.

Attractive nickel plated finish.

Packed 12 to carton; weight No. 20, 9 lbs.; No. 40, 12 lbs.	
No. 20, 7-Inch Spout, Capacity $\frac{7}{8}$ -Pint.	each \$1.25
No. 40, 9-Inch Spout, Capacity $1\frac{1}{2}$ -Pint.	each 1.85

Plews Force Feed Oilers

Vertical Spout Model—Cone-Tipped Vent

Once primed, oiler will feed efficiently when held in any position.

Aluminum lacquer finish. Brass tubes; phosphor bronze springs. Large plated steel balls are hard to clog and readily accessible for cleaning out chaff and dirt.

Packed 12 in a carton.

No.	Each	Cap. Pts.	Spout In.	Wt. Lbs. per Doz.
3310	\$.95	$\frac{3}{4}$	7	9
3330	1.00	$\frac{3}{4}$	9	10
3335	1.25	1	9	12
3375	1.45	$1\frac{1}{2}$	9	13
3385	1.90	2	10	16

Extra Spouts to Slide Over Broken Spout and Solder the Joint. per dozen \$1.80

Gem Welded Plain Oiler Spouts

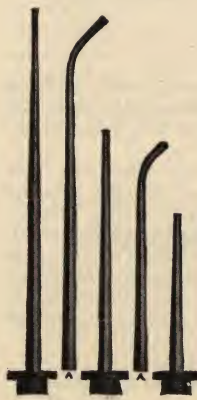
Steel spouts are made of heavy gage cold rolled steel with machine cut solid brass bases. The seams are welded and spouts are highly polished. Brass spouts are made of heavy gage brass with machine cut solid brass bases. All highly polished and lacquered.

Straight

Lgth. In.	Steel per Doz.	Brass per Doz.	Lgth. In.	Steel per Doz.	Brass per Doz.
3	\$2.50	\$3.25	4	\$2.75	\$3.50

Bent

Lgth. In.	Steel per Doz.	Brass per Doz.	Lgth. In.	Steel per Doz.	Brass per Doz.
6	3.30	4.25	15	6.00	....
9	3.90	5.00	18	6.50	....
12	4.45	6.25	..	....	....



Gem Steel Bench Oilers Tempered Steel Bottoms



Straight Spout
plated to order.

Made of heavy gage cold rolled steel. The 3 and 4-inch spouts furnished straight. The 6, 9 and 12-inch spouts are furnished bent unless otherwise ordered. Spout bases of solid brass bar, machine cut. Leather washers are cut from split sides. All spouts are interchangeable. These oilers are highly polished, finished and lacquered. Oilers copper or nickel Packed 1 dozen in a carton.



Bent Spout

No.	Per Dozen	Cap. Pts.	Spout Inches	Diam. Inches	Ht. to Top of Neck Inches	Height Overall Inches	Weight Per Dozen Pounds
1603	\$4.75	1/8	3	3 3/8	1 3/4	4 3/4	3 3/4
1604	5.00	1/8	4	3 3/8	1 3/4	5 3/4	3 3/8
1606	5.50	1/8	6	3 3/8	1 3/4	7 3/4	4
1609	6.00	1/8	9	3 3/8	1 3/4	10 3/4	4 1/4
1612	6.50	1/8	12	3 3/8	1 3/4	13 3/4	4 1/2
1703	5.75	1/2	3	3 3/4	2	5	4 3/4
1704	6.00	1/2	4	3 3/4	2	6	4 7/8
1706	6.50	1/2	6	3 3/4	2	8	5
1709	7.00	1/2	9	3 3/4	2	11	5 1/4
1712	7.50	1/2	12	3 3/4	2	14	5 1/2
1803	6.75	3/4	3	4 1/8	2 1/2	5 1/2	5 3/4
1804	7.00	3/4	4	4 1/8	2 1/2	6 1/2	5 7/8
1806	7.50	3/4	6	4 1/8	2 1/2	8 1/2	6
1809	8.00	3/4	9	4 1/8	2 1/2	11 1/2	6 1/4
1812	8.50	3/4	12	4 1/8	2 1/2	14 1/2	6 1/2
1903	7.75	1	3	4 1/2	3	6	6 3/4
1904	8.00	1	4	4 1/2	3	7	6 7/8
1906	8.50	1	6	4 1/2	3	9	7
1909	9.00	1	9	4 1/2	3	12	7 1/4
1912	9.50	1	12	4 1/2	3	15	7 1/2

Gem Flexible Spout Oilers



Made from the highest grade of steel.

Enables one to reach around corners, dodge awkward angles and get into all the hard to-get-at places.

Spout length, 6 1/2 inches.

No.	Per Dozen	Extra Spouts per Dozen	Cap. Pt.	Ht. Overall In.	Body, In. Base Diam.	Ht. In.	Wt. Lb. per Dozen
16-F	\$10.00	\$5.00	1/8	8 1/4	1 3/4	3 3/8	3 3/8
17-F	11.00	5.00	1/2	8 1/2	2	3 3/4	4 1/2
18-F	12.00	5.00	3/4	9	2 1/2	4 1/8	5 3/4
19-F	13.00	5.00	1	9 1/2	3	4 1/2	6 7/8

Noera Year 'Round Pump Oilers



Will operate under all weather conditions, summer or winter. Will throw oil from any angle even upside down. It will pump oil a drop at a time or with the same stroke shoot oil 20 to 25 feet.

No. 500 size furnished with non-leakable heavy gage brass spout made from solid seamless brass tubing. Spouts for other sizes are heavy gage soldered steel, copper-plated.

Packed 6 of one size to a carton.

No.	Each	500	1000	2000	3000
Each	\$1.60	2.00	2.30	2.50	
Capacity	pt.	3/4	1	1 1/2	2
Lgth. Spout	in.	5	*10	*12	*15
Diam. Dome	in.	3	3 3/8	3 3/8	4 1/4
Wt. per Doz.	lb.	10	14	15	16

*Spouts interchangeable.

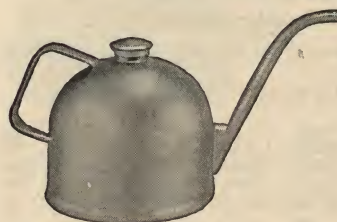
Noera Roll Thread Oilers Copper Plated Inside and Out



One piece seamless steel dome, spring steel bottom, and rolled threads. The dome is double seamed to the bottom, insuring an oil-tight connection. Opening for filling is 1 1/2-inch O.D. Copper plated inside and out.

No.	Per Dozen	Extra Spouts per Doz.	Capacity Pints	Diameter Inches	Length Spout Inches	Approx. Weight Per Doz. Pounds
12	\$4.50	\$2.75	1/4	2 7/8	3	1 7/8
13	5.50	2.75	1/8	3 1/2	3	2 1/4
13A	6.00	3.25	1/8	3 1/2	5	2 3/8
14	6.50	4.25	1/8	3 1/2	9	2 3/4
14A	7.50	2.75	1/2	3 3/4	3	2 3/4
14AA	8.00	3.25	1/2	3 3/4	5	2 7/8
14B	8.50	4.25	1/2	3 3/4	9	3 1/4
15	9.25	2.75	1	4 1/4	3	4
15A	9.75	3.25	1	4 1/4	5	4 1/8
16	10.50	4.25	1	4 1/4	9	4 3/4

Noera Steel Engineers' Fillers



Dome is drawn in one piece from heavy gage steel. Spout has large opening and is connected close to bottom at an angle to permit a free flow of oil.

Copper plated both inside and out.

Packed 6 of one size to a carton.

No.	19	210	211
Per Dozen	\$14.00	20.00	24.00
Capacity	3/4 Pt.	7/8 Qt.	60 Oz.
Height Dome	3 inches	4 3/8 inches	5 1/2 inches
Diameter Dome	4 1/4 inches	5 1/4 inches	6 inches
O.D. Filler Opening	1 1/4 inches	1 1/2 inches	1 1/4 inches
Weight per Dozen	5 1/2 pounds	10 1/2 pounds	14 pounds

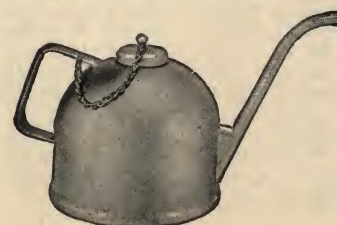
Noera Tallow Pots

Dome is drawn in one piece from heavy gage steel. Pot is strong and serviceable. Made with 1 3/4-inch i.d. filler opening.

Cover is fastened to handle with a brass chain.

Copper plated both inside and out.

Packed 6 of one size to a carton.



No.	212	213
Per Dozen	\$21.00	25.00
Cap.	30 oz.	60
Ht. Dome in.	3 3/4	5
Diam. Dome in.	5 1/4	6
Approx. Wt. per Doz., lb.	9 3/4	13 3/8

Detroit Glass Body Oil Cups



Has set feed and sight feed. Locking wing presses against knurled adjusting nut. Filling cover provided with spring that instantly snaps back when released. Keeps oil filling hole closed all the time.

No.	I. P. Thread In.	O. D. Glass In.	Ht. Glass In.	Cap. Oz.	Price, Each Pol. Brass	N. P. Brass
500	1/8	1 1/4	1 1/8	5/8	\$1.25	\$1.40
501	3/4	1 1/2	1 3/8	1 1/8	1.50	1.70
501 1/2	1/4	1 3/4	1 5/8	1 1/2	1.75	2.00
502	3/8	2	1 7/8	2 1/2	2.10	2.35
503	3/8	2 1/4	2 1/8	4	2.55	2.85
504	3/8	2 1/2	2 3/8	5	3.15	3.50
505	1/2	3	3	10	3.90	4.30
506	1/2	3 1/2	4	18	4.80	5.30

Detroit Glass Body Oil Cups



For use on machinery and bearings of all kinds. Caps and bases are pressed brass; sight feed posts are rod brass.

Stop feed consists of a lever at the top of the cup which permits oil to be shut off, fed at regular rate or in a stream, without disturbing the set feed.

No.	Pol. Brass Each	Nickel Plated Each	O. D. Glass In.	Ht. Glass In.	Cap. Oz.	Shank Pipe Thrd., In.
600	\$3.00	\$3.50	1 1/4	1 1/8	5/8	1/8
601	3.25	3.75	1 1/2	1 3/8	1 1/8	1/4
601 1/2	3.50	4.00	1 3/4	1 5/8	1 1/2	1/4
602	3.75	4.25	2	1 7/8	2 1/2	3/8
603	4.25	4.75	2 1/4	2 1/8	4	3/8
604	5.25	5.75	2 1/2	2 3/8	5	3/8
605	7.25	8.00	3	3	10	1/2
606	9.25	10.25	3 1/2	4	18	1/2

Detroit Steel or Brass Grease Cups

No. 560 Without Leather Washer

No. 590 With Leather Washer

No. 560 is furnished in all sizes. No. 590, in Nos. 000 to 2, inclusive.

Order by number, size and finish.



Size No.	Plain Brass or Steel Each	I. P. Thread Inches	I. D. Inches	Cap. Oz.	Wt. Lb. per Doz.
000	\$.60	1/8	3/4	1/4	3/4
00	.70	1/8	1	1/2	1 1/4
0	.90	1/4	1 1/4	2/3	2
1	1.15	1/4	1 1/2	1	2 1/2
2	1.50	3/8	2	2	4 1/4
3	2.15	1/2	2 1/2	3 1/2	7 1/2
4	2.90	1/2	3	5	9 1/2

No. 580 Detroit Steel or Brass Grease Cups

With Ratchet

Has a ratchet which holds the cap firmly in place. Vibration cannot affect it. Ratchet does not occupy any necessary space.

Order by number, size and finish.



Size No.	Plain Brass or Steel Each	I. P. Thread Inches	I. D. In.	Cap. Oz.	Wt. Lb. per Doz.
000	\$.60	1/8	3/4	1/4	1/2
00	.70	1/8	1	1/2	1 1/2
0	.90	1/8 or 1/4	1 1/4	2/3	3/4
1	1.15	1/4	1 1/2	1	3/4
2	1.50	1/4 or 3/8	2	2	3/4
3	2.15	3/8 or 1/2	2 1/2	3 1/2	2 1/4
4	2.90	1/2	3	5	3

Nesco Galvanized Oil Cans

Made with large spout. Banded top and bottom; galvanized stamped breast.



Nos. 101 and 102 have 1 1/2-inch filler opening; No. 105 has 2 3/16-inch filler opening.

No.	101	102	105
Per Dozen.....	\$6.15	8.40	13.85
Capacity.....	gals 1	2	5
Size.....	in. 6 1/4	8	11
No. in Carton.....	12	6	3
Wt. per Carton....	lb. 18	14	13

Nesco Galvanized Gasoline Cans

Galvanized iron, painted red.

Has large spout with hexagon screw cap on all sizes. Ears are securely riveted. Wire bail has heavy wood grip.

Leak-proof double seam construction.

The 1 and 2-gallon sizes have 1 1/2-inch filler opening; 5-gallon sizes, 2 3/16-inch filler opening.

No.	501	502	505
Per Dozen.....	\$6.80	9.00	14.90
Capacity.....	gal. 1	2	5
Diameter.....	in. 6 1/4	8	11
Dozen per Carton....	1	1 1/2	1 1/4
Wt. per Carton....	lb. 18	14	13

Justrite Safety Cans



1 Pint to 1 Gallon

For factory, machine shop, and garage. For using and storing of explosive, inflammable liquids.

This can is non-explosive. It is approved, inspected, and labeled by Underwriters' Laboratories, Inc., and approved by the Factory Mutual Fire Insurance Companies.

Body is made of No. 24 gage heavily coated lead plate, double seamed and soldered; finished in baked red enamel.

No special funnels are required; sizes 1/2 to 5 gallons can be filled directly from standard hose nozzle at any filling station. Rounded dome prevents accumulation of dust, dirt, and liquid. Easy to carry. Accurate pouring.

Capacity.....	1 Pt.	1 Qt.	1/2	1	2	3	5
Each.....	\$2.40	2.70	3.00	3.60	4.20	5.40	6.60

Baffle Screens

Prevents flash back and the propagation of flame in the presence of gaseous conditions.

Constructed according to Bureau of Mines' Specifications; not required by Underwriters' Laboratories, Inc.; required by the Associated Factory Mutual Fire Insurance Companies in the 1, 2, 3, and 5-gallon sizes.

Can be inserted or removed without tools.

Capacity.....	1 Pt.	1 Qt.	1/2	1	2	3	5
Each.....	\$.30	.30	.40	.40	.50	.50	.50

Justrite Oily Waste Cans



This can opens with the foot; cover closes automatically. There are no springs to get out of order. Each can approved, inspected and labeled by Underwriters' Laboratories, Inc., and approved by the Factory Mutual Fire Insurance Companies. Cover is made of No. 22 gauge, body No. 24 gauge galvanized sheet steel. Legs and handle $\frac{1}{8}$ inch band iron. Size given is exclusive of legs. Legs, 4 inches high.

No.	Each	Size Inches	Capacity Gallons
1	\$4.80	11 $\frac{3}{4}$ x13	6
2	5.40	12 $\frac{1}{2}$ x14	8
3	6.00	13 $\frac{1}{2}$ x15	10
5	7.20	15 $\frac{1}{2}$ x17	14
7	12.00	18 $\frac{1}{2}$ x21	25

No. 6 Galvanized Radiator Filling Cans



Galvanized radiator filling can with 4-inch pouring spout. Capacity, 12 quarts.

Packed 3 in a case; weight per case, 14 pounds.

No. 6.....per dozen \$18.85

No. 9005 Eagle Welded Steel Filling Cans



A heavy duty service can for filling stations and general garage service, tractors and tank wagons, steam shovels, etc.

Capacity, 5 gallons.

Made of heavy steel, 24 gauge. Seams are all welded, no rivets or solders used—no chance for leaks. Enameled red.

Extra wide mouth opening. Friction style spout and filler caps. The bottom is reinforced and kept from touching the floor by a heavy steel hoop.

Length of spout, 6 $\frac{1}{2}$ inches; spout opening, 1 $\frac{3}{4}$ inches; filler opening, 4 inches.

Three in a carton; shipping weight, 100 pounds per dozen.

No. 9005.....per dozen \$36.00

Ash Dumps



No. 1



Nos. 2 & 2F



No. 3

No.	Size Plate In.	Kind	Per Dozen
1	7x9	Double	\$9.60
2	7x9	Single	5.00
2F	7x9	*Single	6.00
3	7x9	†Single	9.60

*With flange. †With heavy frame.
Frames take $\frac{2}{3}$ list; doors $\frac{1}{2}$ list.

Chicago Flue Cleaners



Removes scale and soot from flues; cuts both ways, and cuts under; does not ride over scale.

For Flues, inches	1 $\frac{1}{2}$	1 $\frac{3}{4}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4
Each	\$2.50	2.50	2.50	3.13	3.75	4.38	5.00

No. 570 Pilley's Engineer's Favorite Flue Scrapers

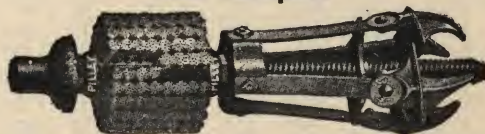


Sizes are for outside diameter of tubes from 1 $\frac{3}{4}$ to 6 inches.

Shipping weight, per inch, 1 pound.

No. 570.....inch diameter \$1.00

No. 550 Pilley's Combination Flue Brushes and Scrapers



For Tubes, 2 to 6 Inches.....per diameter inch \$1.00

Style B Steel Wire Flue Brushes

Round Wire

Pipe nipple, $\frac{1}{4}$ x2 $\frac{1}{2}$ inches.



No.	Each	Size Brush Inches	Wt. Lbs. per 100
1903	\$.75	1 $\frac{3}{4}$ x4	x5 $\frac{1}{2}$ 75
1904	1.05	2	x4 $\frac{1}{2}$ x6 80
1905	1.80	2 $\frac{1}{2}$ x6	x6 120
1906	1.95	2 $\frac{3}{4}$ x6	x6 125

No. 1953 Steel Wire Flue Brushes

Round Wire, Double Spiral

Has $\frac{1}{4}$ -inch pipe nipple. Length of brush, 4 $\frac{1}{2}$ inches. For 1 to 6-inch flues (specify size).



No. 1953.....per diameter inch \$.24

Sizes smaller than 2 inches take price of 2-inch size.

No. 112 Swett Ash Pit or Flue Doors



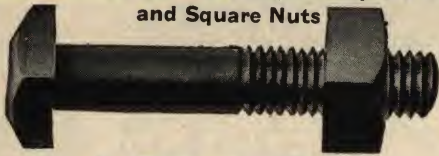
Made with reversible catch. Can be used either right or left hand.

Chimney openings should be made about one inch larger than actual size openings given in table.

Size In.	Per Dozen	OPENING, IN. Height	Width	OVER ALL, IN. Width	Depth	Depth Frame In.	Wt., Lbs. per Doz.
5x7	\$11.60	5	6 $\frac{7}{8}$	7 $\frac{1}{8}$	9 $\frac{1}{8}$	1 $\frac{1}{8}$	60
6x8	11.60	5 $\frac{7}{8}$	7 $\frac{7}{8}$	7 $\frac{7}{8}$	9 $\frac{7}{8}$	1 $\frac{3}{8}$	62
7x9	12.00	7	9	9	11	1 $\frac{3}{8}$	66
8x8	12.00	7 $\frac{3}{4}$	7 $\frac{3}{4}$	9 $\frac{1}{2}$	9 $\frac{1}{2}$	1 $\frac{3}{8}$	72
8x10	13.20	7 $\frac{7}{8}$	9 $\frac{3}{4}$	9 $\frac{3}{4}$	11 $\frac{5}{8}$	1 $\frac{1}{2}$	84
10x10	16.20	10	10	12 $\frac{1}{2}$	12 $\frac{1}{2}$	1 $\frac{1}{2}$	100
10x12	18.00	10	12	12	13 $\frac{3}{4}$	1 $\frac{1}{2}$	114
10x14	24.00	9 $\frac{3}{4}$	13 $\frac{3}{4}$	11 $\frac{3}{4}$	15 $\frac{3}{4}$	1 $\frac{1}{2}$	126
12x12	28.80	12	12	14	14	1 $\frac{3}{8}$	180
12x15	36.00	12	15	14	17	1 $\frac{3}{8}$	204
12x16	39.60	12	15 $\frac{7}{8}$	13 $\frac{7}{8}$	18	1 $\frac{3}{8}$	208
16x16	60.00	16	16	18	18	1 $\frac{3}{4}$	272
16x20	72.00	15 $\frac{3}{4}$	19 $\frac{3}{4}$	18 $\frac{1}{4}$	22	1 $\frac{3}{4}$	394
24x16	102.00	23 $\frac{1}{2}$	15	28 $\frac{1}{2}$	20	1 $\frac{1}{2}$	642
24x24	192.00	24	24	28	28	2 $\frac{5}{8}$	960

Doors or frames furnished separately without drilling at $\frac{1}{2}$ above list price.

Machine Bolts

With American Standard Regular Square Heads
and Square Nuts

Cut Thread—per 100 Pieces

Length Inches	* $\frac{3}{16}$ " and $\frac{1}{4}$ " Diam.				$\frac{5}{16}$ " Diam.			
	Less Than Full Cont'r.	Full Cont'r.	STD. PACKING Full Qty.	Approx. Wt. Lb.	Less Than Full Cont'r.	Full Cont'r.	STD. PACKING Full Qty.	Approx. Wt. Lb.
$\frac{3}{4}$	\$1.21	\$1.10	4000	103	\$1.87	\$1.70	2500	117
1	1.27	1.15	3200	94	1.93	1.75	3000	158
$1\frac{1}{4}$	1.38	1.25	3200	106	1.98	1.80	2000	117
$1\frac{1}{2}$	1.43	1.30	3400	125	2.15	1.95	2100	135
2	1.65	1.50	3000	133	2.42	2.20	2000	151
$2\frac{1}{2}$	1.87	1.70	2700	140	2.70	2.45	2400	208
3	2.04	1.85	2400	142	2.97	2.70	2400	236
$3\frac{1}{2}$	2.26	2.05	2000	133	3.25	2.95	1800	197
4	2.75	2.50	2000	148	3.47	3.15	1400	169
$4\frac{1}{2}$	2.92	2.65	1600	126	3.96	3.60	1300	168
5	3.08	2.80	1300	112	4.18	3.80	1000	140
$5\frac{1}{2}$	3.25	2.95	1200	112	4.40	4.00	800	121
6	3.41	3.10	1100	110	4.62	4.20	900	146
$6\frac{1}{2}$	4.18	3.80	1000	107	5.61	5.10	600	104
7	4.40	4.00	1000	115	5.89	5.35	800	148
$7\frac{1}{2}$	4.57	4.15	800	97	6.11	5.55	500	98
8	4.79	4.35	1000	129	6.38	5.80	600	124
$8\frac{1}{2}$	4.95	4.50	.....	.....	6.60	6.00	500	109
9	5.17	4.70	.....	.....	6.88	6.25	500	114
$9\frac{1}{2}$	5.34	4.85	.....	.....	7.10	6.45	400	96
10	5.56	5.05	.....	.....	7.37	6.70	500	125
11	5.94	5.40	.....	.....	7.87	7.15	.....	.....
12	6.33	5.75	.....	.....	8.36	7.60	.....	.....
13	6.93	6.30	.....	.....	9.08	8.25	.....	.....
14	7.26	6.60	*Standard cont'r. quantities and weights apply only on $\frac{1}{4}$ - inch bolts.		9.57	8.70	.....	.....
15	7.65	6.95			10.07	9.15	.....	.....
16	7.98	7.25			10.56	9.60	.....	.....
17	8.36	7.60			11.06	10.05	.....	.....
18	8.69	7.90	.....	.....	11.55	10.50	.....	.....
19	9.08	8.25	.....	.....	12.05	10.95	.....	.....
20	9.46	8.60	.....	.....	12.54	11.40	.....	.....

Length Inches	$\frac{3}{8}$ " Diam.				$\frac{7}{16}$ " Diam.			
	Less Than Full Cont'r.	Full Cont'r.	STD. PACKING Full Qty.	Approx. Wt. Lb.	Less Than Full Cont'r.	Full Cont'r.	STD. PACKING Full Qty.	Approx. Wt. Lb.
$\frac{3}{4}$	\$2.48	\$2.25	2000	137	.....	.....	.....	.....
1	2.59	2.35	2800	215	\$4.35	\$3.95	1000	113
$1\frac{1}{4}$	2.70	2.45	2000	170	4.51	4.10	700	86
$1\frac{1}{2}$	2.86	2.60	2400	224	4.68	4.25	1000	133
2	3.19	2.90	2000	220	5.01	4.55	1000	153
$2\frac{1}{2}$	3.52	3.20	1800	228	5.34	4.85	900	157
3	3.85	3.50	1500	215	5.72	5.20	900	174
$3\frac{1}{2}$	4.18	3.80	1200	192	6.05	5.50	800	171
4	4.51	4.10	1200	212	6.44	5.85	800	188
$4\frac{1}{2}$	4.84	4.40	1000	193	6.77	6.15	600	153
5	5.28	4.80	900	188	7.15	6.50	600	165
$5\frac{1}{2}$	5.61	5.10	600	135	7.54	6.85	400	118
6	5.94	5.40	800	194	7.87	7.15	500	158
$6\frac{1}{2}$	7.15	6.50	500	123	10.12	9.20	400	138
7	7.54	6.85	600	157	10.62	9.65	400	146
$7\frac{1}{2}$	7.87	7.15	400	111	11.11	10.10	300	116
8	8.25	7.50	600	175	11.61	10.55	300	122
$8\frac{1}{2}$	8.58	7.80	400	123	12.10	11.00	300	128
9	8.97	8.15	500	161	12.60	11.45	300	134
$9\frac{1}{2}$	9.30	8.45	300	102	13.15	11.95	200	94
10	9.68	8.80	500	177	13.59	12.35	200	98
11	10.45	9.50	300	116	14.52	13.20	200	106
12	11.22	10.20	300	125	15.46	14.05	200	115
13	.....	11.30	.....	.....	.....	15.35	.....	.....
14	.....	11.95	.....	.....	.....	16.20	.....	.....
15	.....	12.60	.....	.....	.....	17.15	.....	.....
16	.....	13.25	.....	.....	.....	18.05	.....	.....
17	.....	13.90	.....	.....	.....	18.95	.....	.....
18	.....	14.55	.....	.....	.....	19.85	.....	.....
19	.....	15.20	.....	.....	.....	20.75	.....	.....
20	.....	15.85	.....	.....	.....	21.65	.....	.....

Machine Bolts

With American Standard Regular Square Heads
and Square Nuts

Cut Thread—per 100 Pieces

Length Inches	$\frac{1}{2}$ " Diam.				* $\frac{9}{16}$ " and $\frac{5}{8}$ " Diam.			
	Less Than Full Cont'r.	Full Cont'r.	STD. PACKING Full Qty.	Approx. Wt. Lb.	Less Than Full Cont'r.	Full Cont'r.	STD. PACKING Full Qty.	Approx. Wt. Lb.
1	\$5.06	\$4.60	1200	191	\$8.91	\$8.10	850	242
1 $\frac{1}{4}$	5.28	4.80	1200	207	9.19	8.35	800	245
1 $\frac{1}{2}$	5.50	5.00	1200	223	9.46	8.60	800	261
2	5.89	5.35	1000	212	10.01	9.10	600	221
2 $\frac{1}{2}$	6.33	5.75	1000	239	10.56	9.60	600	254
3	6.77	6.15	800	213	11.11	10.10	500	234
3 $\frac{1}{2}$	7.15	6.50	800	234	11.66	10.60	400	204
4	7.54	6.85	600	192	12.21	11.10	400	222
4 $\frac{1}{2}$	7.98	7.25	600	208	12.76	11.60	300	179
5	8.42	7.65	600	224	13.31	12.10	300	192
5 $\frac{1}{2}$	8.86	8.05	500	200	13.86	12.60	275	188
6	9.30	8.45	600	256	14.41	13.10	250	182
6 $\frac{1}{2}$	11.17	10.15	400	187	14.96	13.60	250	193
7	11.66	10.60	400	198	15.51	14.10	225	183
7 $\frac{1}{2}$	12.16	11.05	250	131	16.06	14.60	225	193
8	12.65	11.50	350	193	16.61	15.10	200	180
8 $\frac{1}{2}$	13.15	11.95	200	116	17.16	15.60	200	189
9	13.64	12.40	300	182	17.71	16.10	175	173
9 $\frac{1}{2}$	14.14	12.85	200	127	18.26	16.60	175	181
10	14.63	13.30	300	199	18.81	17.10	150	161
11	16.17	14.70	200	143	19.91	18.10	150	174
12	17.16	15.60	200	154	21.01	19.10	125	156
13	.....	16.50	.....	.....	22.11	20.10	125	167
14	.....	17.40	.....	.....	23.21	21.10	100	142
15	.....	18.30	.....	.....	24.31	22.10	100	151
16	.....	19.20	.....	.....	25.41	23.10	100	160
17	.....	20.10	.....	.....	26.51	24.10	100	169
18	.....	21.00	.....	.....	27.61	25.10	100	177
19	.....	21.90	.....	.....	28.71	26.10	100	186
20	.....	22.80	.....	.....	29.81	27.10	100	195
21	.....	23.70	*Standard container quantities and weights apply only on $\frac{3}{8}$ -inch bolts.		.....	28.10	.....	.....
22	.....	24.60			.....	29.10	.....	.....
23	.....	25.50			.....	30.10	.....	.....
24	.....	26.40			.....	31.10	.....	.....
25	.....	27.30			.....	32.10	.....	.....
$\frac{3}{4}$ " Diam.								
1 $\frac{1}{2}$	\$12.05	\$10.95	475	233	\$18.37	\$16.70	300	227
2	12.76	11.60	425	235	19.36	17.60	275	232
2 $\frac{1}{2}$	13.48	12.25	375	239	20.35	18.50	225	209
3	14.19	12.90	325	228	21.34	19.40	200	209
3 $\frac{1}{2}$	14.91	13.55	275	210	22.33	20.30	190	209
4	15.62	14.20	275	227	23.32	21.20	150	178
4 $\frac{1}{2}$	16.34	14.85	225	200	24.31	22.10	150	191
5	17.05	15.50	200	190	25.30	23.00	150	204
5 $\frac{1}{2}$	17.77	16.15	200	203	26.29	23.90	130	188
6	18.48	16.80	175	188	27.28	24.80	130	199
6 $\frac{1}{2}$	19.20	17.45	175	199	28.27	25.70	130	210
7	19.91	18.10	150	180	29.26	26.60	100	187
7 $\frac{1}{2}$	20.63	18.75	150	190	30.25	27.50	100	179
8	21.34	19.40	125	166	31.24	28.40	100	188
8 $\frac{1}{2}$	22.06	20.05	125	174	32.23	29.30	110	196
9	22.77	20.70	125	182	33.22	30.20	100	205
9 $\frac{1}{2}$	23.49	21.35	125	190	34.21	31.10	90	192
10	24.20	22.00	125	197	35.20	32.00	90	200
11	25.63	23.30	100	170	37.18	33.80	75	179
12	27.06	24.60	100	183	39.16	35.60	75	192
13	28.49	25.90	100	196	41.14	37.40	75	205
14	29.92	27.20	100	208	43.12	39.20	50	145
15	31.35	28.50	100	221	45.10	41.00	50	154
16	32.78	29.80	100	233	47.08	42.80	50	163
17	34.21	31.10	100	246	49.06	44.60	50	171
18	35.64	32.40	100	258	51.04	46.40	50	180
19	37.07	33.70	100	271	53.02	48.20	50	187
20	38.50	35.00	100	284	55.00	50.00	50	197
21	.....	36.30	.....	.....	.....	51.80	.....	.....
22	.....	37.60	.....	.....	.....	53.60	.....	.....
23	.....	38.90	.....	.....	.....	55.40	.....	.....
24	.....	40.20	.....	.....	.....	57.20	.....	.....
25	.....	41.50	.....	.....	.....	59.00	.....	.....
26	.....	42.80	.....	.....	.....	60.80	.....	.....
27	.....	44.10	.....	.....	.....	62.60	.....	.....
28	.....	45.40	.....	.....	.....	64.40	.....	.....
29	.....	46.70	.....	.....	.....	66.20	.....	.....
30	.....	48.00	.....	.....	.....	68.00	.....	.....

Machine Bolts

**With American Standard Regular Square Heads
and Square Nuts—Cut Thread—per 100 Pieces**

Lgth. In.	1" Diam.				1½" Diam.			
	Less than Full Con- tainer	Full Con- tainer	STANDARD PACKING Con- tainer Qty.	Approx. Wt. Lb.	Less than Full Con- tainer	Full Con- tainer	STANDARD PACKING Con- tainer Qty.	Approx. Wt. Lb.
1½	\$25.58	\$23.25	225	245	.....	.....	.....	.....
2	26.84	24.40	200	240	.....	.....	130	218
2½	28.11	25.55	180	236	.....	.....	120	218
3	29.37	26.70	150	214	\$50.49	\$45.90	110	216
3½	30.64	27.85	135	208	51.92	47.20	95	200
4	31.90	29.00	125	206	53.35	48.50	90	202
4½	33.17	30.15	110	194	54.78	49.80	80	191
5	34.43	31.30	110	206	56.21	51.10	75	190
5½	35.70	32.45	100	199	57.64	52.40	70	188
6	36.96	33.60	100	210	59.07	53.70	65	184
6½	38.23	34.75	80	177	60.50	55.00	60	178
7	39.49	35.90	80	186	61.93	56.30	60	187
7½	40.76	37.05	80	195	63.36	57.60	55	179
8	42.02	38.20	80	204	64.79	58.90	55	187
8½	43.29	39.35	75	200	66.22	60.20	50	177
9	44.55	40.50	75	208	67.65	61.50	50	184
9½	45.82	41.65	60	173	69.08	62.80	50	191
10	47.08	42.80	60	180	70.51	64.10	45	179
11	49.61	45.10	50	161	73.37	67.30	45	192
12	52.14	47.40	50	173	76.23	69.30	40	182
13	54.67	49.70	50	184	79.09	71.90	40	193
14	57.20	52.00	50	195	81.95	74.50	40	205
15	59.73	54.30	50	206	84.81	77.10	40	217
16	62.26	56.60	50	218	87.67	79.70	40	228
17	64.79	58.90	50	229	90.53	82.30	40	239
18	67.32	61.20	50	240	93.39	84.90	40	251
19	69.85	63.50	50	251	96.25	87.50	40	262
20	72.38	65.80	50	263	99.11	90.10	40	274
21	.....	68.10	..	.....	.....	92.70	..	.....
22	.....	70.40	..	.....	.....	95.30	..	.....
23	.....	72.70	..	.....	.....	97.90	..	.....
24	.....	75.00	..	.....	.....	100.50	..	.....
25	.....	77.30	..	.....	.....	103.10	..	.....
26	.....	79.60	..	.....	.....	105.70	..	.....
27	.....	81.90	..	.....	.....	108.30	..	.....
28	.....	84.20	..	.....	.....	110.90	..	.....
29	.....	86.50	..	.....	.....	113.50	..	.....
30	.....	88.80	..	.....	.....	116.10	..	.....

1½" Diam.					1¼" Diam.				
Lgth. In.	Less than Full Con- tainer	Full Con- tainer	STANDARD PACKING		Lgth. In.	Less than Full Con- tainer	Full Con- tainer	STANDARD PACKING	
			Con- tainer Qty.	Wt. Lb.				Con- tainer Qty.	Wt. Lb.
2	.....	.....	90	198	13	\$96.20	\$87.45	30	183
2 ½	.....	.....	80	190	14	99.83	90.75	30	193
3	\$59.90	\$54.45	75	191	15	103.46	94.05	30	204
3 ½	61.71	56.10	75	205	16	107.09	97.35	30	215
4	63.53	57.75	70	203	17	110.72	100.65	30	225
4 ½	65.34	59.40	65	200	18	114.35	103.95	25	197
5	67.16	61.05	60	196	19	117.98	107.25	25	206
5 ½	68.97	62.70	55	189	20	121.61	110.55	25	214
6	70.79	64.35	55	199	21	.....	113.88	.....	.....
6 ½	72.60	66.00	55	208	22	.....	117.15	.....	.....
7	74.42	67.65	50	198	23	.....	120.45	.....	.....
7 ½	76.23	69.30	50	207	24	.....	123.75	.....	.....
8	78.05	70.95	45	195	25	.....	127.05	.....	.....
8 ½	79.86	72.60	45	202	26	.....	130.35	.....	.....
9	81.68	74.25	45	210	27	.....	133.65	.....	.....
9 ½	83.49	75.90	40	194	28	.....	136.95	.....	.....
10	85.31	77.55	40	201	29	.....	140.25	.....	.....
11	88.94	80.85	40	215	30	.....	143.55	.....	.....
12	92.57	84.15	30	172	.....	.....	.....	.....	.....

STANDARD PACKAGE QUANTITY— $\frac{1}{4}$ " to 6" long, inc., 100; $\frac{5}{16}$ " to 7" long, inc., 50; $\frac{3}{8}$ " to 12" long, inc., 50; $\frac{1}{8}$ " to 10" long, inc., 50; $\frac{1}{2}$ " to 10" long, inc., 50; $\frac{1}{4}$ " to 10 $\frac{1}{2}$ " to 12" long, inc., 25; $\frac{3}{8}$ " to 8" long, inc., 25. Longer lengths and larger diameters, when ordered in cartons or paper packages, take 15% higher full container list.

Elevator Bolts

**With Large Countersunk Heads Finished Points
and American Standard Regular Square Nuts**

Effective April 1, 1927

Per 100

Length Inches	DIAMETER, INCHES		
	$\frac{7}{16}$ and $\frac{1}{4}$	$\frac{9}{16}$	$\frac{3}{8}$
$\frac{3}{4}$	\$3.30	\$4.50	\$6.00
$\frac{7}{8}$	3.45	4.75	6.40
1	3.45	4.75	6.40
$1\frac{1}{4}$	3.60	5.00	6.80
$1\frac{1}{2}$	3.75	5.25	7.20
$1\frac{3}{4}$	3.90	5.50	7.60
2	4.05	5.75	8.00
$2\frac{1}{4}$	4.20	6.00	8.40
$2\frac{1}{2}$	4.35	6.25	8.80
$2\frac{3}{4}$	4.50	6.50	9.20
3	4.65	6.75	9.60



Intermediate lengths take next higher list.

Bolt Extras

Special Heads and Styles—Gross Extras to Be Added to Machine, Tap and Blank Bolt Lists

—ADD, PER 100 EXTRA
—DIAMETER, INCHES.

DIAMETER, INCHES										
3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	1 1/8
American Standard Regular Hexagon Heads										
\$.15	\$.20	\$.30	\$.45	\$.65	\$1.00	\$1.40	\$2.20	\$3.00	\$5.00	\$7.00
American Standard Heavy Square Heads										
.35	.45	.65	.95	1.40	2.10	2.60	3.60	5.20	7.70	10.75
American Standard Heavy Hexagon Heads										
.30	.40	.60	.90	1.30	2.00	2.50	3.50	5.00	7.50	10.50
American Standard T. Askew and Eccentric Heads										
.70	1.00	1.40	2.00	3.00	4.50	6.50	10.00	15.00	25.00	35.00
American Standard Regular Button and Round Countersunk Heads, Round Neck, for Lots of Less Than 5000 Pieces of a Size										
.35	.50	.70	1.00	1.50	2.25	3.25	5.00	7.50	12.50	17.50
Joint Bolts with American Standard Regular Square Nuts										
.05	.10	.15	.20	.30	.50	.70	1.10	1.50	2.50	3.50
Joint Bolts with Oblong Nuts										
.15	.30	.45	.60	.90	1.50	2.10	3.30	4.50	7.50	10.50
Boller or Fitting-Up Bolts, Swelled Neck, Half-Cone Point, Recessed Square Nuts										
...	1.25	1.60	2.20	3.00	4.70	6.70	9.40	14.00	22.00	32.00
Boller or Fitting-Up Bolts, Plain Neck, Half-Cone Point, American Standard Heavy Square Nuts										
...	.60	.80	1.10	1.50	2.35	3.35	4.70	7.00	11.00	16.00
Button or Countersunk Head, Round Neck, with One Sawed Slot Across Head										
.85	1.20	1.70	2.50	3.75	5.50	8.25	12.50	20.00	30.00	42.50
American Standard Regular Square or Hexagon Head Machine with One Sawed Slot Across Head										
.70	1.00	1.40	2.00	3.00	4.50	6.50	10.00	15.00	25.00	35.00

**For Bolts with Nuts Other Than American Standard
Regular Hot Pressed Square—Gross Extras to Be
Added to Machine, Carriage, Plow, Elevator, Step
and Hanger Bolt Lists**

American Standard Regular H.P. Hexagon Nuts											
\$.10	\$.20	\$.30	\$.45	\$.50	\$.90	1.30	2.00	\$2.90	\$3.80	\$5.00	
American Standard Regular C.P. Square Nuts											
.10	.20	.30	.45	.50	.90	1.45	2.75	4.25	4.50	5.40	
American Standard Regular C.P. Hexagon Nuts or Jam Nuts											
.10	.20	.30	.45	.50	.95	1.65	3.25	4.50	5.25	6.50	
American Standard Regular Semi-Finished Hexagon or Jam Nuts											
.35	.50	.70	.85	1.00	1.55	2.75	4.55	6.40	6.90	10.50	
American Standard Heavy H.P. Square Nuts											
.25	.40	.65	.80	.95	1.00	1.30	2.10	2.90	3.10	4.00	
American Standard Heavy H.P. Hexagon Nuts or Jam Nuts											
.30	.50	.80	1.00	1.10	1.20	1.70	2.75	3.80	4.00	5.30	
American Standard Heavy C.P. Square Nuts											
.25	.40	.65	.80	1.00	1.30	2.10	3.30	4.60	4.70	7.60	
American Standard Heavy C.P. Hexagon Nuts or Jam Nuts											
.35	.50	.80	1.00	1.30	1.65	2.60	4.10	5.80	6.00	9.30	
American Standard Heavy Semi-Finished Hexagon Nuts or Jam Nuts											
.50	.70	1.00	1.25	1.60	2.20	3.30	4.80	6.70	7.10	10.70	
<i>Gross Amount to Be Deducted for Bolts without Nuts</i>											
.25	.35	.40	.70	.95	1.90	2.40	3.90	5.30	8.75	11.60	

Maximum Lengths of Thread Furnished without Extra Charges Machine, Carriage and Plow Bolts

[illegible]

For intermediate bolt lengths, the minimum thread length shall be the same as that specified for the next shorter length of the same diameter bolt.

Gross Extras to Be Added to Lists per 100 Pieces

—DIAMETER, INCHES

DRILLING PRICES													
10/24	3/16	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4	7/8	1	1 1/8	1 1/4
For Each Additional 1/4-Inch of Thread													
\$.10	\$.10	\$.10	\$.15	\$.15	\$.15	\$.20	\$.30	\$.35	\$.40	\$.45	\$.50		
For Machine, Carriage and Plow Bolts with Threads other Than U.S. Std., such as S.A.E., V, Acme, etc.													
.20	.30	.40	.55	.75	1.05	1.40	2.10	3.00	4.25	5.75			
For Left Hand Thread													
.20	.30	.40	.55	.75	1.05	1.40	2.10	3.00	4.25	5.75			
Threads cut or rolled to National Screw Thread Commission's No. 2 Table, unless otherwise specified.													

Carriage Bolts

With American Standard Regular Square Nuts



Cut Thread—per 100 Pieces

Length Inches	*3/16" and 1/4" Diam.				5/16" Diam.			
	Less Than Full Cont'r.	Full Cont'r.	Std. Packing Full Qty.	Approx. Wt. Lb.	Less Than Full Cont'r.	Full Cont'r.	Std. Packing Full Qty.	Approx. Wt. Lb.
3/4	\$1.16	\$1.05	....	....	\$1.76	\$1.60	....	....
1	1.21	1.10	3000	86	1.82	1.65	2300	114
1 1/4	1.27	1.15	3400	109	1.87	1.70	2100	115
1 1/2	1.32	1.20	4200	150	1.98	1.80	3000	181
2	1.49	1.35	4500	193	2.20	2.00	2700	193
2 1/2	1.71	1.55	5000	250	2.48	2.25	2800	231
3	1.87	1.70	3600	206	2.75	2.50	2400	224
3 1/2	2.04	1.85	2400	154	3.03	2.75	2000	209
4	2.53	2.30	2200	157	3.25	2.95	1800	208
4 1/2	2.70	2.45	2000	157	3.74	3.40	1600	202
5	2.86	2.60	1600	137	3.96	3.60	1200	165
5 1/2	3.03	2.75	1200	112	4.24	3.85	900	119
6	3.19	2.90	1100	110	4.46	4.05	900	143
6 1/2	4.02	3.65	1000	107	5.39	4.90	600	102
7	4.24	3.85	1000	114	5.67	5.15	800	145
7 1/2	4.40	4.00	800	97	5.89	5.35	500	96
8	4.62	4.20	1000	129	6.16	5.60	700	142
8 1/2	4.79	4.35	....	....	6.38	5.80	500	107
9	5.01	4.55	....	....	6.66	6.05	500	113
9 1/2	5.17	4.70	....	....	6.88	6.25	400	95
10	5.39	4.90	....	....	7.15	6.50	500	124
11	5.78	5.25	....	....	7.65	6.95	....	....
12	6.16	5.60	....	....	8.14	7.40	....	....
13	6.77	6.15	....	....	8.86	8.05	....	....
14	7.10	6.45	....	....	9.35	8.50	....	....
15	7.48	6.80	....	....	9.85	8.95	....	....
16	7.81	7.10	....	....	10.34	9.40	....	....
17	8.20	7.45	....	....	10.84	9.85	....	....
18	8.53	7.75	....	....	11.33	10.30	....	....
19	8.91	8.10	....	....	11.83	10.75	....	....
20	9.30	8.45	....	....	12.32	11.20	....	....

Length Inches	3/8" Diam.				7/16" Diam.			
	Less Than Full Cont'r.	Full Cont'r.	Std. Packing Full Qty.	Approx. Wt. Lb.	Less Than Full Cont'r.	Full Cont'r.	Std. Packing Full Qty.	Approx. Wt. Lb.
3/4	2.20	\$2.00	....	....	....	....	....	....
1	2.31	2.10	1700	123	\$3.85	3.50	900	102
1 1/4	2.42	2.20	1500	120	3.96	3.60	700	87
1 1/2	2.59	2.35	2400	210	4.13	3.75	900	121
2	2.86	2.60	2000	206	4.46	4.05	1000	155
2 1/2	3.19	2.90	2100	249	4.84	4.40	1000	176
3	3.52	3.20	2000	268	5.23	4.75	900	177
3 1/2	3.85	3.50	1800	269	5.61	5.10	800	174
4	4.18	3.80	1600	264	5.94	5.40	800	190
4 1/2	4.51	4.10	1200	217	6.33	5.75	600	155
5	4.95	4.50	1200	235	6.71	6.10	600	167
5 1/2	5.28	4.80	900	190	7.10	6.45	450	135
6	5.61	5.10	1000	227	7.48	6.80	500	160
6 1/2	6.93	6.30	700	170	9.08	8.25	400	137
7	7.32	6.65	800	206	9.57	8.70	400	145
7 1/2	7.65	6.95	500	137	10.07	9.15	300	11

*Standard container quantities and weights apply only on 1/4-in. bolts.

NUMBER OF BOLTS IN STANDARD PACKAGE OR CARTON: $\frac{1}{4}$ -in. diameter, up to 8 in. long inclusive, 100; $\frac{3}{8}$ -in. diameter, up to 10 in. long inclusive, 50; $\frac{1}{2}$ -in. diameters, up to 12 in. long inclusive, 50; $\frac{5}{8}$ -in. diameter, up to 8 in. long inclusive, 50; $\frac{3}{4}$ to 12 in. long, 25; and $\frac{7}{8}$ -in. diameter, up to 8 in. long, 25. Longer lengths and larger diameters when ordered in cartons or paper packages, take 15% higher full container list.

Carriage Bolts

With American Standard Regular Square Nuts
Cut Thread—Per 100 Pieces

Lgth. In.	Cut Thread—Per 100 Pieces							
	½" Diam.				¾" and ⅞" Diam.			
	Less than Full Con- tainer	Full Con- tainer	Std. Pkg. Con- tainer Qty.	Approx. Wt. Lb.	Less than Full Con- tainer	Full Con- tainer	Std. Pkg. Con- tainer Qty.	Approx. Wt. Lb.
1	\$4.68	\$4.25	800	124	.....	.....	.....	.....
1¼	4.84	4.40	600	101	\$9.19	\$8.35	800	231
1½	5.06	4.60	1000	183	9.46	8.60	800	248
2	5.45	4.95	1000	210	10.01	9.10	600	212
2½	5.89	5.35	1000	238	10.56	9.60	550	219
3	6.33	5.75	1000	265	11.11	10.10	450	198
3½	6.77	6.15	900	263	11.66	10.60	400	194
4	7.21	6.55	800	256	12.21	11.10	400	211
4½	7.65	6.95	600	208	12.76	11.60	300	171
5	8.09	7.35	600	225	13.31	12.10	300	185
5½	8.58	7.80	500	201	13.86	12.60	300	198
6	9.02	8.20	600	258	14.41	13.10	250	176
6½	10.73	9.75	400	183	14.96	13.60	250	186
7	11.22	10.20	500	242	15.51	14.10	225	178
7½	11.72	10.65	400	205	16.06	14.60	200	167
8	12.21	11.10	400	216	16.61	15.10	200	175
8½	13.26	12.05	400	227	17.16	15.60	175	161
9	13.75	12.50	300	179	17.71	16.10	150	144
9½	14.25	12.95	250	156	18.26	16.60	150	151
10	14.74	13.40	350	228	18.81	17.10	150	158
11	15.73	14.30	200	141	19.91	18.10	100	114
12	16.72	15.20	200	152	21.01	19.10	100	122
13	17.71	16.10	200	163	22.11	20.10	100	131
14	18.70	17.00	200	174	23.21	21.10	100	140
15	19.69	17.90	200	186	24.31	22.10	100	149
16	20.68	18.80	200	197	25.41	23.10	100	157
17	21.67	19.70	200	208	26.51	24.10	100	166
18	22.66	20.60	200	219	27.61	25.10	100	175
19	23.65	21.50	200	230	28.71	26.10	100	183
20	24.64	22.40	200	241	29.81	27.10	100	191

¾" Diam.				¾" Diam.			
Lgth. In.	Full Con- tainer	Full Con- tainer	Std. Pkg. Con-Approx. Qty. Lb.	Lgth. In.	Full Con- tainer	Full Con- tainer	Std. Pkg. Con-Approx. Qty. Lb.
1¼			500 214	8½	\$23.65	\$21.50	125 167
1½	\$13.70	\$12.45	450 206	9	24.42	22.20	125 175
2	14.41	13.10	400 209	9½	25.14	22.85	100 146
2½	15.13	13.75	350 205	10	25.85	23.50	100 153
3	15.84	14.40	300 194	11	27.28	24.80	75 124
3½	16.56	15.05	275 195	12	28.71	26.10	75 133
4	17.27	15.70	250 193	13	30.14	27.40	75 143
4½	17.99	16.35	225 188	14	31.57	28.70	75 152
5	18.70	17.00	200 180	15	33.00	30.00	75 162
5½	19.42	17.65	200 192	16	34.43	31.30	75 171
6	20.13	18.30	175 179	17	35.86	32.60	75 181
6½	20.85	18.95	150 163	18	37.29	33.90	75 190
7	21.56	19.60	150 173	19	38.72	35.20	75 199
7½	22.28	20.25	150 182	20	40.15	36.50	75 209
8	22.99	20.90	125 160				

*Container quantities and weights apply only on 5/8-inch bolts.

Large diameters and longer lengths take machine bolt list.

Number of Bolts per Package or Carton:— $\frac{1}{4}$ inch diameters, to 8 inches long inc., 100; $\frac{3}{8}$ inch diameter, to 10 inches long inc., 50; $\frac{1}{2}$ and $\frac{5}{8}$ inch diameters, to 12 inches long inc., 50; $\frac{3}{4}$ inch diameter, to 8 inches long inc., 50; $\frac{7}{8}$ inch diameter, 8 $\frac{1}{2}$ to 12 inches inc., 25; $\frac{1}{2}$ inch diameter, to 8 inches long inc., 25. Longer lengths and larger diameters when ordered in cartons or paper packages take 15% higher full container list.

†Carriage Bolts—Rolled Thread—Per 100

		DIAMETER, INCHES									
		$\frac{3}{16}$ and $\frac{1}{4}$		$\frac{5}{16}$		$\frac{3}{8}$		$\frac{7}{16}$		$\frac{1}{2}$	
		Less Than Full	Full	Less Than Full	Full	Less Than Full	Full	Less Than Full	Full	Less Than Full	Full
Length Inches	Full Cont'r	Full Cont'r	Full Cont'r	Full Cont'r	Full Cont'r	Full Cont'r	Full Cont'r	Full Cont'r	Full Cont'r	Full Cont'r	Full Cont'r
$\frac{3}{4}$	\$.99	\$.90	\$1.54	\$1.40	\$1.98	\$1.80					
1	1.05	.95	1.60	1.45	2.04	1.85	\$3.47	\$3.15	\$4.24	\$3.85	
$1\frac{1}{4}$	1.10	1.00	1.65	1.50	2.15	1.95	3.58	3.25	4.40	4.00	
$1\frac{1}{2}$	1.16	1.05	1.71	1.55	2.26	2.05	3.74	3.40	4.57	4.15	
2	1.32	1.20	1.93	1.75	2.53	2.30	4.02	3.65	4.90	4.45	
$2\frac{1}{2}$	1.49	1.35	2.20	2.00	2.81	2.55	4.35	3.95	5.28	4.80	
3	1.65	1.50	2.42	2.20	3.08	2.80	4.68	4.25	5.67	5.15	
$3\frac{1}{2}$	1.82	1.65	2.64	2.40	3.41	3.10	5.01	4.55	6.05	5.50	
4	2.20	2.00	2.86	2.60	3.69	3.35	5.34	4.85	6.44	5.85	
$4\frac{1}{2}$	2.37	2.15	3.25	2.95	3.96	3.60	5.67	5.15	6.82	6.20	
5	2.53	2.30	3.47	3.15	4.35	3.95	6.00	5.45	7.21	6.55	
$5\frac{1}{2}$	2.70	2.45	3.69	3.35	4.62	4.20	6.38	5.80	7.65	6.95	
6	2.86	2.60	3.91	3.55	4.90	4.45	6.77	6.15	8.09	7.35	

† Rolled thread bolts weigh approximately 10% less than cut thread bolts.

Lag Screws or Lag Bolts

With American Standard Regular Square Heads
Cone or Gimlet Points

Manufacturers' Standard List per 100 Pieces

Length Inches	1/4" Diam.				5/16" Diam.			
	Less Than Full Contr.	Full Contr.	STD. PACKING Full Approx. Qty. Lb.		Less Than Full Contr.	Full Contr.	STD. PACKING Full Approx. Qty. Lb.	
1	\$2.59	\$2.35	5200	95	\$2.59	\$2.35	4600	144
1 1/2	2.37	2.15	3800	95	2.37	2.15	4200	172
2	2.59	2.35	3600	113	2.59	2.35	2500	127
2 1/2	2.80	2.55	3600	137	2.80	2.55	3000	182
3	3.08	2.80	3300	145	3.08	2.80	2200	154
3 1/2	3.35	3.05	2600	131	3.35	3.05	1600	128
4	3.63	3.30	2400	137	3.63	3.30	1200	108
4 1/2	3.90	3.55	2400	148	3.90	3.55	1200	118
5	4.18	3.80	2000	136	4.18	3.80	1000	108
5 1/2	4.45	4.05	1500	111	4.45	4.05	1000	117
6	4.78	4.35	1500	119	4.73	4.35	900	114
6 1/2	5.11	4.65	1300	111	5.11	4.65	800	108
7	5.44	4.95	1200	110	5.44	4.95	700	101
7 1/2	5.77	5.25	1200	117	5.77	5.25	700	108
8	6.10	5.55	1200	124	6.10	5.55	600	98
9	6.76	6.15	1000	115	6.77	6.15	600	109
10	7.42	6.75	700	89	7.43	6.75	500	100
Length Inches	3/8" Diam.				7/16" Diam.			
	Less Than Full Contr.	Full Contr.	STD. PACKING Full Approx. Qty. Lb.		Less Than Full Contr.	Full Contr.	STD. PACKING Full Approx. Qty. Lb.	
1	\$3.13	\$2.85	2100	97	\$4.67	\$4.25	1800	115
1 1/2	2.86	2.60	2200	131	4.29	3.90	1600	131
2	3.13	2.85	3000	220	3.90	3.55	1200	119
2 1/2	3.41	3.10	2100	187	4.29	3.90	1000	117
3	3.74	3.40	2100	215	4.73	4.30	1000	134
3 1/2	4.07	3.70	1500	176	5.17	4.70	700	107
4	4.40	4.00	1000	211	5.61	5.10	600	103
4 1/2	4.73	4.30	1200	168	6.05	5.50	500	95
5	5.11	4.65	1200	184	6.49	5.90	500	104
5 1/2	5.50	5.00	700	116	6.93	6.30	400	90
6	5.88	5.35	900	161	7.37	6.70	500	122
6 1/2	6.27	5.70	700	135	7.81	7.10	400	105
7	6.65	6.05	900	186	8.25	7.50	400	112
7 1/2	7.04	6.40	600	132	8.69	7.90	300	90
8	7.42	6.75	800	187	9.13	8.30	300	95
9	8.19	7.45	400	104	10.01	9.10	300	106
10	8.96	8.15	300	96	10.89	9.90	250	98
11	8.79	8.90	300	90	11.83	10.80	250	107
12	10.61	9.65	300	95	12.87	11.70	250	117
Length Inches	1/2" Diam.				3/4" Diam.			
	Less Than Full Contr.	Full Contr.	STD. PACKING Full Approx. Qty. Lb.		Less Than Full Contr.	Full Contr.	STD. PACKING Full Approx. Qty. Lb.	
1	\$5.77	\$5.25	1000	90	.....	.....	.....	.....
1 1/2	5.33	4.85	900	101	\$8.74	\$7.95	500	101
2	4.89	4.45	1100	149	8.14	7.40	500	120
2 1/2	5.33	4.85	1200	190	7.53	6.85	400	111
3	5.83	5.30	1100	199	8.25	7.50	600	190
3 1/2	6.32	5.75	800	163	8.96	8.15	500	178
4	6.82	6.20	900	205	9.68	8.80	600	236
4 1/2	7.31	6.65	700	185	10.39	9.45	300	129
5	7.81	7.10	600	173	11.11	10.10	400	188
5 1/2	8.30	7.55	400	125	11.83	10.75	375	190
6	8.80	8.00	500	168	12.54	11.40	400	218
6 1/2	9.29	8.45	400	144	13.25	12.05	250	146
7	9.79	8.90	500	191	13.97	12.70	375	233
7 1/2	10.28	9.35	250	102	14.68	13.35	200	132
8	10.78	9.80	400	172	15.40	14.00	250	175
9	11.77	10.70	300	144	16.72	15.20	225	175
10	12.76	11.60	300	159	18.04	16.40	250	214
11	13.86	12.60	300	175	19.47	17.70	250	234
12	14.96	13.60	300	189	20.90	19.00	200	203
13	.....	.....	300	204	22.33	20.30	200	218
14	.....	.....	300	219	23.76	21.60	200	234
15	.....	.....	300	235	25.19	22.90	200	249
16	.....	.....	300	250	26.62	24.20	200	264
Length Inches	3/4" Diam.				1" Diam.			
	Less Than Full Contr.	Full Contr.	STD. PACKING Full Approx. Qty. Lb.		Less Than Full Contr.	Full Contr.	STD. PACKING Full Approx. Qty. Lb.	
1 1/2	\$13.75	\$12.50	300	95	.....	.....	.....	.....
2	12.92	11.75	300	112	\$20.46	\$18.60	200	113
2 1/2	12.10	11.00	250	107	19.36	17.60	150	96
3	13.09	11.90	350	169	18.48	16.80	250	174
3 1/2	14.08	12.80	300	161	19.80	18.00	275	216
4	15.07	13.70	400	237	21.12	19.20	250	215

Continued

Lag Screws or Lag Bolts

With American Standard Regular Square Heads
Cone or Gimlet Points

(Continued)

Manufacturers' Standard List Per 100 Pieces

Length Inches	¾" Diam.				Length Inches	7/8" Diam.			
	Less Than Full Contr.	Full Contr.	STD. PACKING Full Approx. Qty. Lb.			Less Than Full Contr.	Full Contr.	STD. PACKING Full Approx. Qty. Lb.	
4½	\$16.06	\$14.60	250	164	4½	\$22.44	\$20.40	200	187
5	17.05	15.50	300	212	5	23.76	21.60	225	222
5½	18.04	16.40	250	190	5½	25.08	22.80	175	189
6	19.03	17.30	225	183	6	26.40	24.00	200	231
6½	20.02	18.20	200	174	6½	27.72	25.20	150	186
7	21.01	19.10	250	231	7	29.04	26.40	175	230
7½	22.00	20.00	150	147	7½	30.36	27.60	150	209
8	22.99	20.90	200	207	8	31.68	28.80	150	220
9	24.91	22.65	200	230	9	34.10	31.00	150	243
10	26.84	24.40	175	221	10	36.52	33.20	125	222
11	28.87	26.25	150	207	11	39.05	35.50	100	193
12	30.91	28.10	150	224	12	41.69	37.90	100	208
13	32.94	29.95	150	240	13	44.55	40.50	100	223
14	35.03	31.85	150	257	14	47.41	43.10	100	238
15	37.12	33.75	150	273	15	50.32	45.75	100	253
16	39.22	35.65	150	290	16	53.24	48.40	100	268

Length Inches	1" Diam.				Length Inches	1" Diam.			
	Less Than Full Contr.	Full Contr.	STD. PACKING Full Approx. Qty. Lb.			Less Than Full Contr.	Full Contr.	STD. PACKING Full Approx. Qty. Lb.	
2	\$31.24	\$28.40	150	117	7½	\$41.14	\$37.40	120	223
2½	29.81	27.10	100	87	8	42.84	38.95	115	225
3	28.65	26.05	100	97	9	45.98	41.80	105	227
3½	27.50	25.00	225	240	10	40.11	44.65	100	236
4	29.20	26.55	200	232	11	52.41	47.65	80	205
4½	30.91	28.10	175	220	12	55.82	50.75	80	221
5	32.61	29.65	175	237	13	59.67	54.25	75	222
5½	34.32	31.20	150	217	14	63.52	57.75	75	237
6	36.02	32.75	150	232	15	67.48	61.35	75	251
6½	37.73	34.30	125	207	16	71.44	64.95	75	266
7	39.43	35.85	125	220					

NUMBER OF BOLTS IN STANDARD PACKAGE OR CARTON:—1/4-in. diameter, up to 4 in. long inclusive, 100; 5/16 inch diameter, to 6 in. long inclusive, 100; 3/8 and 1/2-in. diameters, up to 8 in., 50; 5/8-in. up to 12 in., 50; 3/4-in. diameter, up to 8 in. diameter, inclusive, 25. Longer lengths or larger diameters, when ordered in cartons or paper packages, take 15% higher full container list.

Hanger Screws

Cut Thread With American Standard Regular
Square Nuts, Gimlet Points

Effective April 1, 1927



Price, per 100

Length Inches	DIAMETER, INCHES									
	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	
2	\$3.00	\$3.40	\$4.25	\$5.20	\$6.50	\$8.70	.....	.....	.....	.....
2 1/2	3.15	3.60	4.55	5.60	7.00	9.35	\$14.50	.....	.....	.....
3	3.30	3.80	4.85	6.00	7.50	10.00	15.35	.....	.....	.....
3 1/2	3.45	4.00	5.15	6.40	8.00	10.65	16.20	\$25.00	.....	.....
4	3.60	4.20	5.45	6.80	8.50	11.30	17.05	26.30	.....	.....
4 1/2	3.75	4.40	5.75	7.20	9.00	11.95	17.90	27.60	.....	.....
5	3.90	4.60	6.05	7.60	9.50	12.60	18.75	28.90	\$38.00	.....
5 1/2	4.05	4.80	6.35	8.00	10.00	13.25	19.60	30.20	39.90	.....
6	4.20	5.00	6.65	8.40	10.50	13.90	20.45	31.50	41.80	.....
6 1/2	.....	.....	6.95	8.80	11.00	14.55	21.30	32.80	43.70	.....
7	.....	.....	7.25	9.20	11.50	15.20	22.15	34.10	45.60	.....
7 1/2	.....	.....	7.85	9.60	12.00	15.85	23.00	35.40	47.50	.....
8	.....	.....	.....	10.00	12.50	16.50	23.85	36.70	49.40	.....
9	.....	.....	.....	10.80	13.50	17.80	25.55	39.30	53.20	.....
10	.....	.....	.....	14.50	19.10	.....	27.25	41.90	57.00	.....
11	.....	.....	.....	.....	.....	20.40	28.95	44.50	60.80	.....
12	.....	.....	.....	.....	.....	21.70	30.65	47.10	64.60	.....

Intermediate lengths take next higher list.

Upson Plow and Cultivator Bolts

With American Standard Regular Square Nuts

Effective April 1, 1927



No. 1 Key Head No. 2 Round Countersunk Head No. 3 Short Square Head No. 7, Reverse Key Head

Length Inches	Per 100					
	DIAMETER, INCHES					
	5/16	3/8	7/16	1/2	5/8 and 3/4	3/4
3/4	\$2.05	\$2.45	\$3.35	\$4.75	.....	.....
1	2.15	2.60	3.55	5.00	.....	.....
1 1/4	2.30	2.75	3.75	5.25	\$10.40	\$15.00
1 1/2	2.45	2.90	4.00	5.50	10.80	15.70
1 3/4	2.60	3.05	4.25	5.75	11.20	16.40
2	2.75	3.20	4.50	6.00	11.60	17.10
2 1/4	2.95	3.35	4.75	6.30	12.00	17.80
2 1/2	3.15	3.50	5.00	6.60	12.40	18.50
2 3/4	3.35	3.75	5.30	6.90	12.80	19.20
3	3.60	4.00	5.65	7.25	13.20	19.90
3 1/4	3.85	4.40	6.00	7.65	13.60	21.05
3 1/2	4.30	4.90	6.45	8.25	14.00	22.20
3 3/4	4.75	5.40	6.95	8.90	14.40	23.35
4	5.25	5.95	7.55	9.60	14.80	24.50
4 1/2	5.75	6.50	8.15	10.35	15.80	26.10
5	6.25	7.15	8.75	11.10	16.80	27.70
5 1/2	6.75	7.90	9.45	11.90	17.80	29.30
6	7.25	8.70	10.30	12.75	18.80	30.90

Intermediate lengths take next higher list.

For head styles other than illustrated, add following gross extras to above lists: 5/16-inch, 50 cents, 3/8-inch 60 cents, 7/16-inch 75 cents. 1/2-inch 95 cents, 5/8-inch \$2.00, 3/4-inch \$4.00.

Nut Dimensions and Threads per Inch

Bolt Size	American Standard												THREADS PER INCH	
	HEAVY			REGULAR			LIGHT			THREADS				
	Width In.	Full In.	Thickness, In. Jam	Width In.	Full In.	Thickness, In. Jam	Width In.	Full In.	Thickness, In. Jam	Full In.	Jam	Reg	Light	
$\frac{3}{16}$	$\frac{3}{8}$	$\frac{3}{16}$...	$\frac{7}{16}$	$\frac{7}{32}$	$\frac{5}{32}$...	$\frac{7}{16}$	$\frac{7}{32}$	$\frac{5}{32}$	20	28		
$\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{3}{16}$	$\frac{7}{16}$	$\frac{7}{32}$	$\frac{5}{32}$	$\frac{1}{2}$	$\frac{7}{16}$	$\frac{7}{32}$	$\frac{5}{32}$	18	24		
$\frac{5}{16}$	$\frac{19}{32}$	$\frac{5}{16}$	$\frac{7}{32}$	$\frac{9}{16}$	$\frac{17}{64}$	$\frac{3}{16}$	$\frac{1}{2}$	$\frac{5}{16}$	$\frac{17}{64}$	$\frac{3}{16}$	16	20		
$\frac{3}{8}$	$\frac{11}{16}$	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{5}{8}$	$\frac{21}{64}$	$\frac{7}{32}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{21}{64}$	$\frac{7}{32}$	14	18		
$\frac{7}{16}$	$\frac{25}{32}$	$\frac{7}{16}$	$\frac{9}{32}$	$\frac{3}{4}$	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{3}{8}$	$\frac{1}{4}$	14	20		
$\frac{1}{2}$	$\frac{7}{8}$	$\frac{1}{2}$	$\frac{5}{16}$	$\frac{13}{16}$	$\frac{1}{16}$	$\frac{3}{4}$	$\frac{5}{16}$	$\frac{3}{4}$	$\frac{1}{16}$	$\frac{3}{4}$	13	20		
$\frac{9}{16}$	$\frac{15}{16}$	$\frac{9}{16}$	$\frac{11}{32}$	$\frac{7}{8}$	$\frac{1}{2}$	$\frac{11}{32}$	$\frac{7}{8}$	$\frac{31}{64}$	$\frac{5}{16}$	$\frac{12}{16}$	12	18		
$\frac{5}{8}$	$1\frac{1}{16}$	$\frac{5}{8}$	$\frac{3}{8}$	1	$\frac{35}{64}$	$\frac{3}{8}$	$1\frac{1}{16}$	$\frac{35}{64}$	$\frac{3}{8}$	11	18			
$\frac{3}{4}$	$1\frac{1}{4}$	$\frac{3}{4}$	$\frac{7}{16}$	$1\frac{1}{8}$	$\frac{21}{32}$	$\frac{7}{16}$	$1\frac{1}{16}$	$\frac{21}{32}$	$\frac{7}{16}$	10	16			
$\frac{7}{8}$	$1\frac{1}{2}$	$\frac{7}{8}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$\frac{49}{64}$	$\frac{1}{2}$	$1\frac{1}{4}$	$\frac{49}{64}$	$\frac{1}{2}$	9	14			
1	$1\frac{5}{8}$	1	$\frac{5}{8}$	$1\frac{1}{2}$	$\frac{9}{16}$	$\frac{1}{2}$	$1\frac{1}{2}$	$\frac{9}{16}$	$\frac{1}{2}$	8	14			
$1\frac{1}{8}$	$1\frac{11}{16}$	$1\frac{1}{8}$	$\frac{5}{16}$	$1\frac{1}{16}$	1	$\frac{5}{8}$	$1\frac{5}{8}$	$\frac{65}{64}$	$\frac{9}{16}$	7	12			
$1\frac{1}{4}$	2	$1\frac{1}{4}$	$\frac{3}{4}$	$1\frac{3}{8}$	$\frac{13}{32}$	$\frac{3}{4}$	$1\frac{13}{16}$	$\frac{13}{32}$	$\frac{5}{8}$	7	12			
$1\frac{1}{2}$	$2\frac{1}{8}$	$1\frac{1}{2}$	$\frac{13}{16}$	$1\frac{13}{16}$	$\frac{15}{16}$	$\frac{13}{16}$	2	$\frac{15}{16}$	$\frac{3}{4}$	6	12			
$1\frac{3}{4}$	$2\frac{3}{8}$	$1\frac{3}{4}$	$\frac{15}{16}$	$2\frac{1}{2}$	$\frac{17}{16}$	$\frac{15}{16}$	$2\frac{3}{8}$	$\frac{17}{16}$	$\frac{15}{16}$	6	12			
$1\frac{7}{8}$	$2\frac{5}{8}$	$1\frac{7}{8}$	1	$2\frac{5}{8}$	$\frac{17}{32}$	1	...	...	...	$5\frac{1}{2}$...		
2	$3\frac{1}{8}$	2	$1\frac{1}{8}$	3	$\frac{141}{64}$	$1\frac{1}{16}$	...	...	...	5	...	
$2\frac{1}{4}$	$3\frac{3}{8}$	$2\frac{1}{4}$	$1\frac{1}{4}$	3	$\frac{131}{32}$	$1\frac{1}{4}$	...	...	...	$4\frac{1}{2}$...		
$2\frac{1}{2}$	$3\frac{5}{8}$	$2\frac{1}{2}$	$1\frac{1}{2}$	$3\frac{1}{2}$	$\frac{23}{16}$	$1\frac{1}{2}$	...	...	...	4	...	
$2\frac{3}{4}$	$4\frac{1}{4}$	$2\frac{3}{4}$	$1\frac{3}{4}$	$4\frac{1}{2}$	$\frac{213}{32}$	$1\frac{3}{4}$	...	...	...	4	...	
3	$4\frac{5}{8}$	3	$1\frac{3}{4}$	$4\frac{1}{2}$	$\frac{25}{8}$	$1\frac{3}{4}$	...	...	...	$3\frac{1}{2}$...		
$3\frac{1}{4}$	5	$3\frac{1}{4}$	$1\frac{7}{8}$	...	...	...	...	...	...	$3\frac{1}{2}$...		
$3\frac{1}{2}$	$5\frac{3}{8}$	$3\frac{1}{2}$	...	...	...	...	...	...	...	$3\frac{1}{4}$...		
$3\frac{3}{4}$	$5\frac{3}{4}$	$3\frac{3}{4}$	$2\frac{1}{8}$	...	...	...	...	...	...	3	...	
4	$6\frac{1}{8}$	4	$2\frac{1}{4}$	...	...	...	...	...	...	3	...	

Steel Oven Head Stove Bolts

Per Hundred

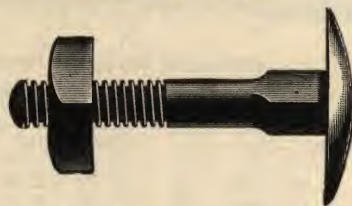


Lgth. In.	DIAM. INCHES		Lgth. In.	DIAM. INCHES	
	3/16	1/4		3/16	1/4
1 1/4	\$.67	.....	1	.83	1.38
3/8	.67	.....	1 1/8	...	1.44
1/2	.70	\$1.12	1 1/4	.90	1.51
5/8	.73	1.18	...	...	...
3/4	.76	1.25	...	...	...

Step Bolts

With Large Black Trimmed Heads, Finished Points and American Standard Regular Square Nuts

Effective April 1, 1927



Standard package quantity: 1/4-inch, 100; 5/16 and 3/8-inch, 50.

Length Inches	Manufacturers' Standard List—Price per 100				
	DIAMETER, INCHES				
	5/16 and 3/4	5/16	3/8	7/16	1/2
1	\$3.00	\$4.00	\$6.00	\$9.00	\$11.00
1 1/4	3.15	4.20	6.25	9.30	11.40
1 1/2	3.30	4.40	6.50	9.60	11.80
1 3/4	3.45	4.60	6.75	9.90	12.20
2	3.60	4.80	7.00	10.20	12.60
2 1/4	3.75	5.00	7.25	10.50	13.00
2 1/2	3.90	5.20	7.50	10.80	13.40
2 3/4	4.05	5.40	7.75	11.10	13.80
3	4.20	5.60	8.00	11.40	14.20
3 1/4	4.35	5.80	8.25	11.70	14.60
3 1/2	4.50	6.00	8.50	12.00	15.00
3 3/4	4.65	6.20	8.75	12.30	15.40
4	4.80	6.40	9.00	12.60	15.80
4 1/4	4.95	6.60	9.25	12.90	16.20
4 1/2	5.10	6.80	9.50	13.20	16.60
4 3/4	5.25	7.00	9.75	13.50	17.00
5	5.40	7.20	10.00	13.80	17.40
5 1/2	5.70	7.60	10.50	14.40	18.20
6	6.00	8.00	11.00	15.00	19.00

Intermediate lengths take next higher list.

Stove Rods



Slotted Flat Head



Slotted Round Head

Length Inches	WT., LBS. PER 100 SIZE, INCHES		Length Inches	WT., LBS. PER 100 SIZE, INCHES	
	3/16	1/4		3/16	1/4
7	5.14	9.40	19	12.94	22.84
8	5.79	10.52	20	13.59	23.90
9	6.44	11.64	21	14.24	25.08
10	7.09	12.76	22	14.89	26.20
11	7.74	13.88	23	15.54	27.32
12	8.39	15.00	24	16.19	28.44
13	9.04	16.12	25	16.84	29.56
14	9.69	17.24	26	17.49	30.68
15	10.34	18.36	27	18.14	31.80
16	10.99	19.48	28	18.79	32.92
17	11.64	20.60	29	19.44	34.04
18	12.29	21.72	30	20.09	35.16

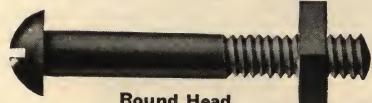
For longer lengths of 3/16-inch rods, add .65 pound per inch.
For longer lengths of 1/4-inch rods, add 1.12 pounds per inch.

Prices upon application.

Stove Bolts



Flat Head

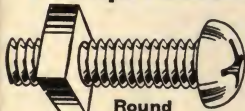


Round Head

List of May 1, 1934—Price per 100

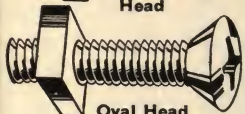
Length Inches	DIAMETER, INCHES					
	5/32	3/16	1/4	5/16	3/8	1/2
3/8	\$.57	\$.67				
1/2	.60	.70	\$1.12			
5/8	.63	.73	1.18			
3/4	.66	.76	1.25	\$2.12	\$2.90	
7/8	.68	.79	1.31	2.20	3.00	
1	.71	.83	1.38	2.27	3.10	\$8.80
1 1/8	.76	.86	1.44	2.34	3.20	9.00
1 1/4	.80	.90	1.51	2.41	3.30	9.20
1 3/8	.84	.96	1.57	2.50	3.40	9.40
1 1/2	.89	1.01	1.64	2.59	3.50	9.60
1 3/4	1.00	1.12	1.80	2.77	3.75	10.00
2	1.11	1.27	1.98	3.00	4.00	10.50
2 1/4		1.41	2.16	3.20	4.25	11.10
2 1/2		1.59	2.34	3.45	4.55	11.70
2 3/4		1.77	2.55	3.70	4.80	12.30
3		1.95	2.75	3.95	5.20	13.00
3 1/2		2.25	3.10	4.40	5.80	14.40
4		2.55	3.45	4.85	6.40	15.80
4 1/2		2.85	3.80	5.30	7.00	
5		3.15	4.15	5.75	7.60	
5 1/2		3.45	4.50	6.20		
6		3.75	4.85	6.65		
Deduct for Bolts						
Less Nuts.....						
Add. for Hex. Nuts						
Add for N. P.						
	.10	.12	.20	.35	.50	.80
	.05	.07	.10	.20	.30	.50
	.80	.90	1.20	1.50	2.00	3.50

Phillips Recessed Head Steel Stove Bolts



American Standard

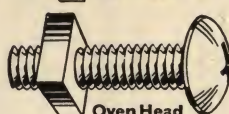
Effective April 1, 1940



Oval Head



Flat Head



Oval Head

No. 5/32 Plain *Plated Driver

Lgth. In.	per 100	per 100	Size No.
1/2	\$.31	\$.35	2
5/8	.32	.37	2
3/4	.33	.38	2
7/8	.35	.40	2
1	.37	.43	2
1 1/8	.40	.46	2
1 1/4	.43	.49	2
1 1/2	.47	.54	2

No. 5/16 Plain *Plated Driver

Lgth. In.	per 100	per 100	Size No.
1/2	\$.90	\$1.10	†
5/8	.93	1.14	†
3/4	.96	1.18	†
7/8	1.00	1.23	†
1	1.04	1.28	†
1 1/8	1.09	1.35	†
1 1/4	1.14	1.42	†
1 1/2	1.22	1.52	†
1 3/4	1.30	1.62	†
2	1.39	1.73	†
2 1/4	1.49	1.86	†
2 1/2	1.59	1.99	†
2 3/4	1.70	2.13	†

No. 3/16 Plain *Plated Driver

Lgth. In.	per 100	per 100	Size No.
1/2	\$.33	\$.39	2
5/8	.34	.40	2
3/4	.36	.43	2
7/8	.38	.45	2
1	.40	.47	2
1 1/8	.43	.51	2
1 1/4	.47	.55	2
1 1/2	.52	.61	2
1 3/4	.58	.68	2
2	.65	.76	2

No. 3/8 Plain *Plated Driver

Lgth. In.	per 100	per 100	Size No.
3/4	\$1.38	\$1.71	4
7/8	1.43	1.78	4
1	1.48	1.85	4
1 1/8	1.53	1.92	4
1 1/4	1.59	2.00	4
1 1/2	1.70	2.14	4
1 3/4	1.82	2.29	4
2	1.94	2.45	4
2 1/4	2.06	2.61	4
2 1/2	2.19	2.78	4
2 3/4	2.32	2.95	4

No. 1/4 Plain *Plated Driver

Lgth. In.	per 100	per 100	Size No.
1/2	\$.47	\$.58	3
5/8	.50	.62	3
3/4	.53	.65	3
7/8	.56	.69	3
1	.59	.73	3
1 1/8	.63	.78	3
1 1/4	.67	.82	3
1 1/2	.74	.90	3
1 3/4	.81	.99	3
2	.90	1.10	3
2 1/4	.99	1.21	3
2 1/2	1.09	1.33	3

No. 1/2 Plain *Plated Driver

Lgth. In.	per 100	per 100	Size No.
1	\$2.48	\$3.31	4
1 1/8	2.55	3.41	4
1 1/4	2.62	3.52	4
1 1/2	2.74	3.70	4
1 3/4	2.88	3.90	4
2	3.03	4.12	4
2 1/4	3.19	4.35	4

*Barrel burnished. Price covers nickel, brass, bronze, blued, copper, cadmium, electro galvanized, parkerized.

†Round head, use No. 3; flat, oval and oven head use No. 4. Lengths and diameters not listed are special. Prices on application.

Pressed Steel Wing Nuts



These steel nuts have the strength of drop-forged nuts and are as cheap as malleable nuts, with an appearance better than either. The smooth finish is especially suitable for nickel-plating.

Special sizes made to order in quantities.

No.	Size Thread	Per 100
R	632, 640	\$1.25
R	832, 1024, 1032, 1224, 3/16 24	.90
S	1420, 1424, 1/20 1/4 28, 1/4 18	1.00
T	1/20 5/16 18, 5/16 24	1.25
U	3/8 16, 3/8 24	1.60
V	1/16 14, 1/2 13	4.60

Malleable Iron Wing Nuts



Diam. In.	Thds. per In.	Per 100
3/4 16	24	\$1.10
1/4 20	20	1.30
5/16 18	18	1.60
3/8 16	16	2.15
7/16 14	14	2.75
1/2 13 or 12	13 or 12	3.70
5/8 11	11	6.00
3/4 10	10	7.00

Williams' Blank or Tapped Drop-Forged Thumb Nuts



Type A



Type B

Drop-forged from steel; furnished either blank or tapped, tumbled smooth. Tapped nuts have base faced at right angle to hole. U.S. Std. threads in stock; other threads supplied to order. Special sizes and shapes furnished to order. When tapping is ordered, a commercial product is furnished. If additional accuracy is required an extra charge will be made.

When ordering indicate pattern by letter.

Unless otherwise specified, tapped will be sent.

Size Bolt In.	Blank Per 100	Tapped Per 100	U.S. Diam. Std. Top Threads In.	Size Bolt In.	Blank Per 100	Tapped Per 100	U.S. Diam. Std. Top Threads In.
1/8	\$3.50	\$9.00	40 1/4	7/16	\$8.00	\$20.00	14 5/8
3/16	4.00	10.00	24 5/16	1/2	10.00	25.00	13 21/32
1/4	4.50	11.00	20 3/8	9/16	12.00	30.00	12 3/4
5/16	5.20	13.00	18 7/16	5/8	14.50	34.00	11 15/16
3/8	6.50	16.00	16 17/32	3/4	21.00	46.00	10 15/16

Pressed Brass Wing Nuts

Smooth finish, uniform dimensions.



Style C

Style	Size of Hole and Threads per Inch	Per 100
A	436 632 832	\$1.50
B	1024 1032 1224	1.80
C	1224 1420 1424 1/4 20	2.25
E	5/16 18 5/16 24	3.75
F	3/8 16 7/16 14 1/2 13	5.50

Standard package, 100.

Hexagon Brass Cap Nuts

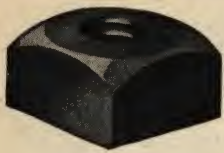


*Hex. Base

Size Hole, Thds. per In.	Per 100	*Diam. In.	Ht., In.
632 832	\$.80	5/16	9/32
1024 1032 1224	1.00	3/8	11/32
1420 1424 1/4 20	1.25	7/16	3/8
1/4 20 5/16 18 5/16 24	1.60	1/2	15/32
3/8 16 3/8 24 7/16 14 1/2 13	2.00	9/16	7/16
	2.80	5/8	1/2
	4.50	3/4	3/4
	15.00	15/16	3/4

We are prepared to take care of your requirements for Special Nuts, Bolts, Screws, etc., in Everdur, Monel, Stainless Steel and other special compositions.

Square Hot Pressed Tapped Nuts

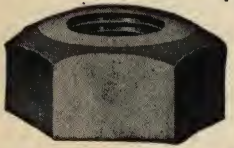
American Standard Heavy
Single Chamfer
Packed in Kegs

Tapped N.C. thread series. Class 2 Fit. For nuts with left hand thread and for tapping other than Class 2 Fit, prices upon application.

Per 100 Pieces

Diam. Bolt Inches	Less Than Full Container	Full Container	Width Inches	Thick- ness Inches	Standard Container Quantity	Wt., Lb. per 100
1/4	\$.61	\$.55	1 1/2	1/4	14000	1.43
5/16	.83	.75	1 1/2	5/16	8400	2.42
3/8	1.16	1.05	1 1/2	3/8	5000	3.84
7/16	1.65	1.50	2 1/2	7/16	3150	5.70
1/2	2.20	2.00	2 1/2	1/2	2800	7.98
5/8	2.53	2.30	2 1/2	5/8	2000	10.7
3/4	2.97	2.70	2 1/2	3/4	1500	14.4
7/8	4.18	3.80	2 1/2	7/8	900	23.1
1	6.71	6.10	2 1/2	1	550	35.4
1 1/8	9.13	8.30	3 1/2	1 1/8	450	51.4
1 1/4	13.09	11.90	3 1/2	1 1/4	300	71.6
1 1/2	17.16	15.60	4 1/2	1 1/2	225	99.7
1 3/4	23.10	21.00	4 1/2	1 3/4	175	131.3
1 7/8	30.97	28.15	5 1/2	1 7/8	130	167.5
2	44.94	40.85	5 1/2	2	100	210.0
2 1/4	57.75	52.50	6 1/2	2 1/4	80	259.0
2 1/2	76.01	69.10	6 1/2	2 1/2	65	315.0
2 3/4	86.46	78.60	6 1/2	2 3/4	55	381.0
3	157.30	143.00	6 1/2	3	45	532.0
3 1/4	220.00	200.00	6 1/2	3 1/4	35	724.0
3 1/2	275.00	250.00	6 1/2	3 1/2	25	946.0
3 3/4	396.00	360.00	6 1/2	3 3/4	16	1210.0
4	759.00	690.00	6 1/2	4	13	1525.0
4 1/4	935.00	850.00	6 1/2	4 1/4	12	1880.0
4 1/2	1285.00	1169.00	6 1/2	4 1/2	8	2300.0
4 3/4	1540.00	1400.00	6 1/2	4 3/4	6	2785.0

Hexagon Hot Pressed Tapped Nuts

American Standard Heavy Single Chamfer
Packed in Kegs

Tapped N.C. thread series. Class 2 Fit. For nuts with left hand thread and for tapping other than Class 2 Fit, prices upon application.

Hot pressed hexagon jam nuts take the following list. Double chamfered nuts take 10% higher than full container list.

Per 100 Pieces

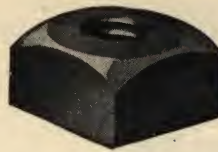
Diam. Bolt Inches	Less Than Full Container	Full Container	Width Inches	Thick- ness Inches	STANDARD CON- TAINER QUANTITY	Wt., Lb. per 100
1/4	\$.72	\$.65	1 1/2	1/4	15000	1.20
5/16	.99	.90	1 1/2	5/16	9000	2.02
3/8	1.32	1.20	1 1/2	3/8	6000	3.20
7/16	1.93	1.75	2 1/2	7/16	3600	5.10
1/2	2.48	2.25	2 1/2	1/2	3300	5.30
5/8	2.81	2.55	2 1/2	5/8	2300	9.0
3/4	3.30	3.00	2 1/2	3/4	1800	11.9
7/8	4.73	4.30	2 1/2	7/8	1000	19.2
1	7.48	6.80	2 1/2	1	650	29.2
1 1/8	10.23	9.30	3 1/2	1 1/8	500	42.3
1 1/4	14.41	13.10	3 1/2	1 1/4	350	58.5
1 1/2	19.09	17.35	4 1/2	1 1/2	270	81.2
1 3/4	25.63	23.30	4 1/2	1 3/4	200	105.3
1 7/8	34.43	31.30	5 1/2	1 7/8	150	136.5
2	49.94	45.40	5 1/2	2	120	171.0
2 1/4	64.13	58.30	5 1/2	2 1/4	95	212.0
2 1/2	84.48	76.80	5 1/2	2 1/2	80	256.0
2 3/4	93.67	85.15	5 1/2	2 3/4	65	308.5
3	134.42	122.20	5 1/2	3	48	430.0
3 1/4	187.22	170.20	5 1/2	3 1/4	42	590.0
3 1/2	248.60	226.00	5 1/2	3 1/2	25	764.0
3 3/4	371.80	338.00	5 1/2	3 3/4	20	969.0
4	594.00	540.00	5 1/2	4	15	1218.0
4 1/4	733.37	666.70	5 1/2	4 1/4	12	1535.0
4 1/2	982.63	893.30	5 1/2	4 1/2	10	1890.0
4 3/4	1177.00	1070.00	5 1/2	4 3/4	8	2320.0

Number of Tapped Nuts in Standard Cartons and Cases

Nuts packed in cartons, as listed below, take 15% higher list than when packed in bulk in full containers.

Size Nut Inches	CONTENTS		SQUARE NUTS WEIGHT, POUNDS		HEXAGON NUTS WEIGHT, POUNDS	
	Car- ton	Case	Car- ton	Case	Car- ton	Case
1/4	100	8000	1.46	123	1.20	101
5/16	100	5000	2.39	126	2.11	111
3/8	100	5600	3.89	229	3.19	188
7/16	50	3400	2.81	201	2.38	170
1/2	50	2800	4.01	236	3.35	197
5/8	50	1800	5.39	204	4.65	176
3/4	50	2000	7.34	308	6.14	258
7/8	50	1000	12.46	262	10.04	211
1	25	600	9.12	230	7.45	188
1 1/8	25	400	13.14	221	10.90	183

Square Cold Punched Nuts

American Standard Heavy
Chamfered and Trimmed
Packed in Kegs

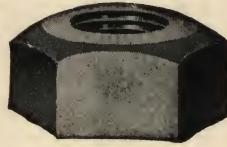
Tapped National Coarse Thread Series. Class 2 fit.

Left hand thread or tapping other than Class 2 Fit; prices on request.

Per 100 Pieces

Size Bolt Inches	Tapped per 100	Blank per 100	Width Inches	Thick- ness Inches	Hole Inches	WEIGHT, POUNDS, PER 100	
1/4	\$.55	\$.50	1 1/2	1/4	3/16	Blank	Tapped
5/16	.75	.70	1 1/2	5/16	3/16	1.49	1.43
3/8	1.05	1.00	1 1/2	3/8	3/16	2.52	2.42
7/16	1.50	1.40	2 1/2	7/16	1/2	4.00	3.84
1/2	2.00	1.85	2 1/2	1/2	1/2	5.95	5.70
5/8	2.80	2.60	2 1/2	5/8	1/2	8.32	7.98
3/4	3.25	3.05	2 1/2	3/4	1/2	11.2	10.7
7/8	4.60	4.40	2 1/2	7/8	1/2	15.0	14.4
1	7.20	6.75	2 1/2	1	1/2	24.2	23.1
1 1/8	10.00	9.50	3 1/2	1 1/8	1 1/2	37.1	35.4
1 1/4	14.00	13.30	3 1/2	1 1/4	1 1/2	53.8	51.4
1 1/2	19.60	18.50	4 1/2	1 1/2	1 1/2	75.0	71.6
1 3/4	33.50	32.00	4 1/2	1 3/4	1 1/2	104.3	99.7
1 7/8	45.20	43.30	5 1/2	1 7/8	1 1/2	137.5	131.3
2	64.50	62.50	5 1/2	2	1 1/2	175.3	167.5
2 1/4	82.90	80.90	5 1/2	2 1/4	1 1/2	220.0	210.0
2 1/2	115.25	113.25	5 1/2	2 1/2	1 1/2	271.5	259.0
2 3/4	128.50	126.50	5 1/2	2 3/4	1 1/2	330.0	315.0
3			5 1/2	3	1 1/2	399.0	381.0

Hexagon Cold Punched Nuts

American Standard Heavy
Chamfered and Trimmed
Packed in Kegs

Tapped National Coarse Thread Series. Class 2 fit.

Left hand thread or tapping other than Class 2 Fit; prices on request.

Per 100 Pieces

Size Bolt Inches	Tapped per 100	Blank per 100	Width Inches	Thick- ness Inches	Hole Inches	WEIGHT, POUNDS, PER 100	
1/4	\$.65	\$.60	1 1/2	1/4	3/16	Blank	Tapped
5/16	.90	.85	1 1/2	5/16	3/16	1.26	1.20
3/8	1.20	1.15	1 1/2	3/8	3/16	2.12	2.02
7/16	1.75	1.65	2 1/2	7/16	1/2	3.35	3.20
1/2	2.25	2.10	2 1/2	1/2	1/2	4.92	4.70
5/8	3.10	2.90	2 1/2	5/8	1/2	7.00	6.70
3/4	3.60	3.40	2 1/2	3/4	1/2	9.44	9.00
7/8	5.10	4.80	2 1/2	7/8	1/2	12.5	11.9
1	8.00	7.50	2 1/2	1	1/2	20.2	19.2
1 1/8	11.15	10.55	3 1/2	1 1/8	1 1/2	30.8	29.2
1 1/4	15.55	14.80	3 1/2	1 1/4	1 1/2	44.5	42.3
1 1/2	21.40	20.50	4 1/2	1 1/2	1 1/2	61.5	58.5
1 3/4	28.80	27.80	4 1/2	1 3/4	1 1/2	85.5	81.2
1 7/8	38.70	37.30	5 1/2	1 7/8	1 1/2	111.0	105.3
2	56.05	53.90	5 1/2	2	1 1/2	143.7	136.5
2 1/4	75.70	73.35	5 1/2	2 1/4	1 1/2	180.0	171.0
2 1/2	94.95	91.65	5 1/2	2 1/2	1 1/2	223.3	212.0
2 3/4	112.90	108.85	5 1/2	2 3/4	1 1/2	270.0	256.0
3	168.40	159.55	5 1/2	3	1 1/2	325.0	308.5
3 1/4	252.60	238.40	5 1/2	3 1/4	1 1/2	453.0	430.0
3 1/2	326.00	307.40	5 1/2	3 1/2	1 1/2	618.5	590.0
3 3/4	438.00	410.80	5 1/2	3 3/4	1 1/2	800.0	764.0
4	640.00	611.40	5 1/2	4	1 1/2	1013.0	969.0
4 1/4	816.70	781.00	5 1/2	4 1/4	1 1/2	1275.0	1218.0
4 1/2	1026.70	983.30	5 1/2	4 1/2	1 1/2	1600.0	1535.0
4 3/4	1236.70	1186.70	5 1/2	4 3/4	1 1/2	1970.0	1890.0
			5 1/2	5	1 1/2	2420.0	2320.0

Less than standard container quantity takes 10% higher list.

Number of Tapped or Blank Nuts in Standard Containers

Size In.	Sq.	Hex.	Size In.	Sq.	Hex.	Size In.	Sq.	Hex.	Size In.	Sq.	Hex.
1/4	14000	15000	3/4	900	1000	1 1/8	100	120	3	16	20
5/16	8400	9000	7/8	550	650	1 1/4	80	95	3 1/4	13	15
3/8	5000	6000	1	450	500	1 1/2	65	80	3 1/2	12	12
7/16	3150	3600	1 1/8	300	350	2	55	65	3 3/4	8	10
1/2	2800	3300	1 1/4	225	270	2 1/4	45	48	4	6	8
5/8	2000	2300	1 1/2	175	200	2 1/2	35	42			
3/4	1500	1800	1 3/4	150	150	2 3/4	25	25			

Number of Tapped Nuts in Standard Containers and Cases

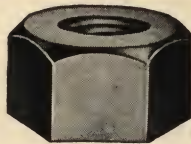
Nuts packed in cartons, as listed below, take 15% higher list than when packed in bulk.

Size Nut In.	CONTENTS		SQUARE NUTS WEIGHT, POUNDS		HEXAGON NUTS WEIGHT, POUNDS	
	Car- ton	Case	Car- ton	Case	Car- ton	Case
1/4	100	8000	1.46	123	1.20	101
5/16	100	5000	2.39	126	2.11	111
3/8	100	5600	3.89	229	3.19	188
7/16	50	3400	2.81	201	2.38	170
1/2	50	2800	4.01	236	3.35	197
5/8	50	1800	5.39	204	4.65	176
3/4	50	2000	7.34	308	6.14	258
7/8	50	1000	12.46	262	10.04	211
1	25	600	9.12	230	7.45	188
1 1/8	25	400	13.14	221	10.90	183

Hexagon Semi-Finished Nuts

Full Thickness and Jam Sizes
American Standard Heavy

Single Chamfer—Single Countersink
Tapped National Coarse Thread Series—Class 2 Fit
Packed in Cartons



Size Inches	In Cartons per 100	No. of Threads	No. of NUTS IN CARTON		Width Across Flats Inches	THICKNESS INCHES	
			Full	Jam		Full	Jam
1/4	\$.86	20	100	100	1 1/2	13/64	3/16
5/16	1.15	18	100	100	1 1/2	19/32	7/32
3/8	1.55	16	100	100	1 1/2	1/4	1/4
7/16	2.19	14	50	100	1 1/2	5/16	1/4
1/2	2.76	13	50	100	1 1/2	23/64	9/32
9/16	3.80	12	50	50	1 1/2	27/64	5/16
5/8	4.60	11	50	50	1 1/2	31/64	11/32
3/4	6.56	10	50	50	1 1/2	17/32	3/8
7/8	10.06	9	25	50	1 1/2	41/64	7/16
1	13.80	8	25	50	1 1/2	3/4	1/2
1 1/8	19.21	7	..	..	1 1/2	55/64	9/16
1 1/4	26.11	7	..	..	2	31/32	5/8
1 3/8	36.80	6	..	..	2	11/16	3/4
1 1/2	48.19	6	..	..	2 3/16	11/64	13/16
1 5/8	70.38	5 1/2	..	..	2 3/8	19/32	7/8
1 3/4	93.04	5	..	..	2 3/8	125/64	15/16
1 7/8	115.00	5	..	..	2 3/4	1 1/2	1
2	135.70	4 1/2	..	..	2 15/16	1 39/64	1 1/16
					3 1/8	1 23/32	1 1/8

For nuts with left hand thread, prices on application.

For tapping other than Class 2 Fit, prices on application.

Semi-finished nuts with double countersink, prices on application. Double chamfered, 10 per cent higher list.

Hexagon Semi-Finished Nuts

Full Thickness and Jam Sizes
American Standard Light
(S.A.E.)

Packed in Cartons

List Effective April 1, 1927



Size Inches	In Cartons Per 100	No. of Threads	No. of NUTS IN CARTON		Width Across Flats Inches	THICKNESS INCHES	
			Full	Jam		Full	Jam
1/4	\$.75	28	100	100	1 1/16	7/32	5/32
5/16	.86	24	100	100	1 1/2	17/64	3/16
3/8	1.09	24	100	100	1 1/2	21/64	7/32
7/16	1.50	20	50	100	1 1/2	5/8	1/4
1/2	1.90	20	50	100	1 1/2	3/4	5/16
9/16	2.88	18	50	50	1 1/2	7/8	1/2
5/8	3.68	18	50	50	1 1/2	31/64	3/8
3/4	5.75	16	50	50	1 1/2	35/64	3/8
7/8	9.20	14	25	50	1 1/2	21/32	3/8
1	13.34	14	25	50	1 1/2	49/64	7/16
1 1/8	18.98	12	20	25	1 1/2	7/8	1/2
1 1/4	25.88	12	20	25	1 1/2	63/64	9/16
1 3/8	36.23	12	10	20	2	1 1/2	5/8
1 1/2	47.15	12	10	20	2 3/16	1 13/64	3/4
						1 15/16	1 1/2

For nuts with left hand thread, prices on application.

For tapping other than American Standard Fine Threads, prices on application.

Semi-finished nuts with double countersink, prices on application.

Hexagon Semi-Finished Castellated Nuts

American Standard Light
(S. A. E.)

Packed in Cartons

Manufacturers' Standard List Effective August 11, 1931

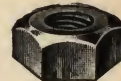


Size Bolt In.	Per 100	No. of Thread	Width Across Flats In.	Thick- ness In.	SLOT, IN.		No. in Car- ton
					Width	Depth	
1/4	\$1.32	28	7/16	9/32	5/64	3/32	100
5/16	1.55	24	1/2	21/64	5/64	3/32	100
3/8	1.84	24	9/16	13/32	1/8	1/8	100
7/16	2.30	20	5/8	29/64	1/8	1/8	50
1/2	3.28	20	3/4	9/16	1/8	3/16	50
9/16	4.83	18	7/8	39/64	5/32	3/16	50
5/8	5.64	18	15/16	23/32	5/32	1/4	50
3/4	8.97	16	1 1/16	13/16	5/32	1/4	50
7/8	12.36	14	1 1/4	29/32	5/32	1/4	25
1	18.40	14	1 1/16	1	5/32	1/4	25
1 1/8	25.88	12	1 5/8	1 5/32	7/32	5/16	20
1 1/4	34.50	12	1 13/16	1 1/4	7/32	5/16	20
1 3/8	46.00	12	2	1 3/8	7/32	5/16	10
1 1/2	57.50	12	2 3/16	1 1/2	1/4	3/8	10

For nuts with left-hand thread and for tapping other than S.A.E. thread, prices upon application.

Square and Hexagon Machine Screw Nuts

Steel and Brass

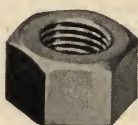


For Screw Size	Steel		Brass		THREAD		Width Across Flats In.	Thick- ness In.
	Square per Gross	Hexagon per Gross	Square per Gross	Hexagon per Gross	Coarse	Fine		
2	\$.40	\$.45	\$.95	\$.95	56	64	3/16	1/16
3	.40	.45	.95	.95	48	56	3/16	1/16
4	.31	.34	.80	.80	40	48	1/4	7/64
5	.33	.36	1.00	1.00	40	44	5/16	7/64
6	.33	.36	1.00	1.00	32	40	5/16	1/8
8	.35	.40	1.25	1.25	32	36	11/32	1/8
10	.37	.43	1.40	1.40	24	32	3/8	1/8
12	.56	.63	2.40	2.40	24	28	7/16	5/32
1/4	.63	.72	2.80	2.80	20	28	7/16	3/16
5/16	1.10	1.35	5.70	5.70	18	24	9/16	7/32
3/8	1.50	1.70	7.80	7.80	16	24	5/8	1/4

Hexagon Brass Nuts

American Standard Light (S.A.E.)
Semi-Finished National Fine Thread

Milled from the bar. Accurately made, and well finished.
Special sizes or types furnished promptly to order.



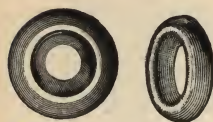
Full



Jam

Diameter Thread Inches	Per 100	Threads per Inch	Width Across Flats Inch	THICKNESS INCHES	
				Full Nut	Jam Nut
1/4	\$2.40	28	7/16	7/32	5/32
5/16	3.20	24	1/2	17/64	3/16
3/8	5.20	24	9/16	21/64	7/32
7/16	7.20	20	5/8	3/8	1/4
1/2	9.60	20	3/4	7/8	5/16
9/16	15.00	18	7/8	31/64	5/16
5/8	17.00	18	15/16	35/64	3/8
3/4	27.00	16	1 1/16	21/32	3/8
7/8	45.00	14	1 1/4	49/64	7/16
1	68.00	14	1 1/16	7/8	1/2

Screw Washers or Bushings



Front and Side Views

For flat or oval head screws.
Wrought brass, polished or nickel.
plated finishes.

For Screws No.	POLISHED		NICKEL-PLATED	
	No.	Price per 1000	No.	Price per 1000
6	6962B	\$1.70	6962N	\$1.80
8	6199B	2.80	6199N	2.90
10	6242B	3.10	6242N	3.20

Steel Spring Washers



Kantlink Pattern

Standard packing is as follows: sizes to 1/2 inch, 1000 to a box; 3/16 to 1/8 inch, 500 to a box; 1 to 1 1/2 inches, 100 to a box.



Plain Pattern

Screw or Bolt Size	Per 1000	Steel Section Width & Thick. Inches	Nom. Diam. Screw or Bolt Inches	S.A.E. Classification	Net Wt. Per 1000 Lb.	Oz.
No. 2	\$2.45	1/32 x .022	.086	Std.	...	1
No. 4	2.30	1/32 x 1/32	.112	Std.	...	2
No. 6	2.15	3/64 x 1/32	.138	Std.	...	4
No. 8	1.95	3/64 x 3/64	.164	Std.	...	7
No. 10 & 3/16 In.	1.75	1/16 x 3/64	.190	Std.	...	11
No. 12	1.95	1/16 x 1/16	.216	Std.	1	..
1/4 In.	2.25	3/32 x 1/16	.250	Std.	1	14
5/16 In.	3.35	1/8 x 3/32	.313	Hvy.	4	7
3/8 In.	3.75	5/32 x 3/32	.375	Std.	5	..
7/16 In.	6.40	3/16 x 1/8	.438	Std.	10	12
1/2 In.	7.60	1/4 x 1/8	.500	Std.	13	1
9/16 In.	10.25	3/8 x 1/8	.563	Std.	15	10
5/8 In.	15.80	1/2 x 3/32	.625	Std.	23	12
3/4 In.	25.60	5/8 x 1/16	.750	Std.	43	..
7/8 In.	37.50	3/4 x 3/32	.875	Lgt.	42	..
1 In.	39.30	7/8 x 1/16	.875	Std.	51	8
1 1/8 In.	65.70	1 x 1/4	1.000	Std.	90	13
1 1/4 In.	90.00	1 1/8 x 1/4	1.125	Std.	125	..
1 1/2 In.	124.00	1 1/2 x 3/8	1.250	Std.	161	8
1 3/4 In.	195.20	1 3/4 x 3/8	1.500	Hvy.	338	14

Wrought Washers

Adopted July 15, 1936



U. S. Standard Sizes

Bolt Size Inches	200-Lb. Kegs per 100 Lbs.	Outside Diam. Inches	Size Hole Inches	Thickness Wire Gauge No.	Approx. No. in 100 Pounds
3/16	\$14.00	9/16	1/4	18	39400
1/4	12.20	7/4	5/16	16	15600
5/16	11.40	7/8	3/8	14	9000
3/8	10.50	1	7/16	14	6800
7/16	9.80	1 1/4	1/2	14	4300
1/2	9.40	1 3/8	3/4	12	2600
9/16	9.30	1 1/2	5/8	12	2250
5/8	9.30	1 3/4	11/16	10	1300
3/4	9.20	2	13/16	9	900
7/8	9.20	2 1/4	15/16	8	782
1	9.20	2 1/2	1 1/16	8	568
1 1/8	9.20	2 3/4	1 1/4	8	473
1 1/4	9.20	3	1 3/8	8	364
1 3/8	9.20	3 1/4	1 1/2	7	275
1 1/2	9.20	3 1/2	1 5/8	7	256
1 5/8	9.50	3 3/4	1 3/4	7	220
1 3/4	9.50	4	1 7/8	7	197
1 7/8	9.50	4 1/4	2	7	174
2	9.50	4 1/2	2 1/8	7	160
2 1/4	10.50	4 3/4	2 3/8	5	122
2 1/2	10.50	5	2 5/8	4	106
2 3/4	11.50	5 1/4	2 7/8	3	91
3	12.50	5 1/2	3 1/8	2	77

Type 11 Shakeproof Lock Washers

For Standard Bolts and Nuts

Steel—External Teeth

No.	Per 1000	Bolt and Screw Size	O.D. In.	Thick. In.
1104	\$3.50	No. 4	9/32	.018
1106	3.50	No. 6 & 1/8"	5/16	.018
1108	3.60	No. 8 & 5/32"	3/8	.018
1110	3.60	No. 10 & 3/16"	13/32	.021
1114	4.35	1/4"	1/2	.025
1118	5.25	5/16"	19/32	.030
1120	7.00	3/8"	11/16	.035
1122	10.00	7/16"	25/32	.035
1124	13.00	1/2"	7/8	.040
1126	17.50	9/16"	31/32	.040
1128	24.50	5/8"	1 1/16	.045
1132	33.50	3/4"	1 1/4	.050
1134	51.30	7/8"	1 1/2	.062
1136	69.00	1"	1 5/8	.062



Shakeproof Lock Washers

Steel—Internal Teeth

Each tooth is twisted, one edge up and one edge down, the top edge biting into the nut and the other digging into the working surface.



Type 12—For S.A.E. and Standard Machine Screws

No.	Per 1000	Bolt and Screw Size	O.D. Inches	Thick. Inches
1202	\$5.00	No. 2	3/16	.010
1203	4.35	No. 3	7/32	.012
1204	3.50	No. 4	17/64	.018
1206	3.50	No. 6 & 1/8"	9/32	.018
1208	3.60	No. 8 & 5/32"	21/64	.018
1210	3.60	No. 10 & 3/16"	3/8	.021
1212	4.15	No. 12	13/32	.021
1214	4.35	1/4"	19/32	.025
1218	5.25	5/16"	19/32	.030
1220	7.00	3/8"	11/16	.035
1222	10.00	7/16"	25/32	.035
1224	13.00	1/2"	7/8	.040
1226	17.50	9/16"	31/32	.040
1228	24.50	5/8"	1 1/16	.045
1230	31.00	11/16"	1 5/16	.045
1232	33.50	3/4"	1 1/4	.050
1234	51.30	7/8"	1 3/8	.050
1236	69.00	1"	1 5/8	.062
1238	90.00	1 1/8"	1 13/16	.062
1240	125.00	1 1/4"	1 15/16	.062

Type 14—For S.A.E. and Standard Machine Screws

Extra Heavy Duty

No.	Price	Thick.	Diam., In.	Thick.	Price
1414	\$7.35	1/4"	17/32	.040	
1418	9.00	5/16"	19/32	.045	
1420	12.00	3/8"	47/64	.045	
1422	15.00	7/16"	27/32	.062	
1424	17.50	1/2"	59/64	.062	
1426	24.50	9/16"	1 1/32	.062	
1428	30.00	5/8"	1 1/8	.062	
1432	44.00	3/4"	1 1/4	.072	
1434	55.00	7/8"	1 1/2	.078	

Brass Washers

These washers are made in sizes to fit machine screws. Special sizes made to order in lots of not less than 50 pounds.

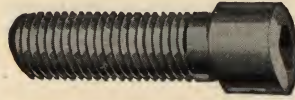
Standard package, 1 pound.

Small Pattern

No.	Diam., In.	Thick. In.	Price per Lb.	No.	Diam., In.	Thick. In.	Price per Lb.
3	1/4	.105	\$2.00	14	9/16	.260	.040 \$.80
4	9/32	.120	.025	16	5/8	.280	.040 .75
6	3/8	.150	.032	18	11/16	5/16	.051 .75
8	3/8	.170	.032	20	3/4	11/32	.064 .75
10	7/16	.195	.036	24	7/8	.385	.064 .75
12	1/2	.223	.040	..	..	..	..
8	7/16	.170	.036	16	3/4	.280	.064 \$.75
10	1/2	.195	.040	18	7/8	5/16	.064 .75
12	9/16	.223	.040	20	11/16	11/32	.064 .75
14	1 1/16	.260	.051	24	1	.385	.081 .70

Large Pattern

Mac-it Socket Head Cap Screws



Made from Mac-it special alloy steel. Milled from the solid bar. Die-cut threads are accurate in pitch diameter and lead to American Screw Standards. Heat treated for maximum tensile strength and toughness; and to resist rounding out of wrench sockets; and to prevent splitting of hex sockets at the corners.

All standard diameters are produced from electric furnace steel which is of the same carefully controlled quality as that used for Mac-it Hollow Set Screws. Concentricity of head, body, and thread held to close limits by the Mac-it process.

Because they are milled from the solid bar, which avoids bending or spreading the fibres of the metal, the underside of each screw head is cut square, giving a full bearing surface to the extreme outside diameter of the head, thereby insuring full strength of the screw in the assembly.

This screw permits more compact design with a corresponding saving in weight. When a screw is to be placed in a walled corner, the deciding factor controlling the proximity of the screw to the corner is the wrench or the diameter of the socket when a socket key is used for tightening. Because of the smaller screw head size and the type of wrench used, the head of the socket head screw needs only to clear the wall, making possible a narrower flange and a tighter joint.

Another common advantage of socket head cap screw is that of added strength. It is especially important that internal mechanisms be securely fastened to eliminate the possibility of breakage. The holding power of socket head cap screws is sufficient so that a screw locking device is unnecessary.

All sizes listed are standard in American Standard Coarse (U.S.S.) thread series and are carried in stock.

*Sizes marked with an asterisk are standard in American Standard Fine (S.A.E.) thread series and are carried in stock.

†To determine the list price of lengths in any diameter longer than listed, add the amount shown in the corresponding column for each $\frac{1}{4}$ inch additional length. As such items are not stock items, they are subject to additional charge based upon schedule covering specials.

All other diameters, lengths, thread, etc., are special, and prices will be furnished on application.

Special length of thread, large diameter of head, special height of head, socket diameter other than as listed, flat top head, concentricity of head, thread, and body closer than standard, pitch diameter tolerance closer than Class 3, etc., are special, and prices will be furnished on application.

Specify diameter, thread, and length under head.

One short series key furnished with each 25 screws.

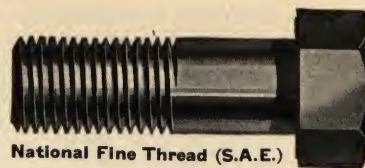
Per 100																
Diameter Screw...in.	Standard List										†Supplementary List					
	No. 8	No. 10	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	No. 4	No. 5	No. 6	$1\frac{1}{8}$	$1\frac{1}{4}$
Amer. Std. Coarse	32	24	20	18	16	14	13	11	10	9	8	40	40	32	7	7
U.S.S. Thds.per in.																
Amer. Std. Fine																
S.A.E. Thds.per in.	36	32	28	24	24	20	20	18	16	14	14	48	44	40	12	12
Max. Head Diam...in.	.270	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{3}{8}$	$\frac{5}{16}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{16}$	.183	.205	.226	$1\frac{1}{2}$	$1\frac{3}{4}$
Max. Head Ht....in.	.164	.190	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	.112	.125	.138	$1\frac{1}{8}$	$1\frac{1}{4}$
Size of Hex. Socket in.	$\frac{1}{8}$	$\frac{5}{32}$	$\frac{3}{16}$	$\frac{7}{32}$	$\frac{1}{2}$	$\frac{3}{16}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{16}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{5}{64}$	$\frac{3}{32}$	$\frac{3}{32}$	$\frac{3}{4}$	$1\frac{1}{2}$
1												\$4.40	\$4.50	\$4.60		
$\frac{3}{8}$	*\$4.90	*\$4.90	*\$5.25	*\$6.25								4.60	4.70	4.80		
$\frac{1}{2}$	*5.10	*5.10	*5.50	*6.50	*\$7.40	*\$8.90	*\$10.20					4.80	4.90	5.00		
$\frac{5}{8}$	*5.30	*5.30	*5.75	*6.75	*7.70	*9.20	*10.60					5.00	5.10	5.20		
$\frac{3}{4}$	*5.50	*5.50	*6.00	*7.00	*8.00	*9.50	*11.00					5.20	5.30	5.40		
$\frac{7}{8}$	*6.00	*6.00	*6.50	*7.50	*8.50	*10.00	*11.75									
1	*6.25	*6.25	*6.75	*7.75	*9.00	*10.50	*12.25	*\$18.00								
$1\frac{1}{8}$			*7.00	*8.50	*10.00	*11.50	*13.50	*19.75	*\$20.75							
$1\frac{1}{2}$			*7.75	*8.25	*9.25	*11.00	*12.50	*14.75	*21.50	*23.00						
$1\frac{3}{4}$			*8.50	*9.00	*10.00	*12.00	*13.50	*16.00	*23.25	*25.25	*\$40.00					
2			*9.25	*9.75	*10.75	*13.00	*14.50	*17.25	*25.00	*27.50	42.75				\$92.50	
$2\frac{1}{4}$				*10.50	*11.50	*14.00	*15.50	*18.50	*26.75	*29.75	45.50				100.00	
$2\frac{1}{2}$				*11.25	*12.25	*15.00	*16.50	*19.75	*28.50	*32.00	48.25				107.50	\$127.50
$2\frac{3}{4}$				*12.00	*13.00	*16.00	*17.50	*21.00	*30.25	*34.25	51.00				115.00	136.25
3				*12.75	*13.75	*17.00	*18.50	*22.25	*32.00	*36.50	53.75				122.50	145.00
$3\frac{1}{4}$					*15.25	*18.00	*19.50	*23.50	*33.75	*38.75	56.50				130.00	153.75
$3\frac{1}{2}$					*16.75	*19.00	*20.50	*24.75	*35.50	*41.00	59.25				137.50	162.50
$3\frac{3}{4}$						*21.00	*22.50	*26.00	*37.25	*43.25	62.00				145.00	171.25
4						*23.00	*24.50	*27.25	*39.00	*45.50	64.75				152.50	180.00
$4\frac{1}{4}$							25.00	28.50	40.75	47.75	67.50					
$4\frac{1}{2}$							27.00	29.75	42.50	50.00	70.25					
$4\frac{3}{4}$							29.00	31.00	44.25	52.25	73.00					
5							31.00	32.25	46.00	54.50	75.75					
$5\frac{1}{4}$								33.50	47.75	56.75	78.50					
$5\frac{1}{2}$								34.75	49.50	59.00	81.25					
$5\frac{3}{4}$								36.00	51.25	61.25	84.00					
6								37.25	53.00	63.50	86.75					
†Add for Each $\frac{1}{4}$ -Inch Length Not Listed..	1.50	1.50	1.50	1.50	2.00	2.00	2.50	3.50	4.50	5.50	7.00	1.50	1.50	1.50	15.00	17.50
Extra Keys:																
Short Series...each	.03	.04	.05	.06	.10	.10	.15	.25	.35	.35	.45	.03	.03	.03	.65	.65
Long Series...each	.04	.05	.06	.07	.12	.12	.20	.35	.50	.50	.65	.04	.04	.04	.95	.95

†Socket Head Cap Screws in Nos. 4, 5, and 6 and in $1\frac{1}{8}$, $1\frac{1}{4}$, and $1\frac{1}{2}$ -inch diameters are special and therefore not stock items and are subject to prices based upon schedule covering specials.

Hexagon Head Cap Screws



National Coarse Thread (U.S.S.)



National Fine Thread (S.A.E.)

		Price per 100									
Diameter of Screw.....inches		1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4	7/8	1
Diameter of Head.....inches		7/16	1/2	9/16	5/8	3/4	13/16	7/8	1	1 1/8	1 1/2
Height of Head.....inches		3/16	15/64	1/8	2/64	3/8	27/64	15/32	9/16	21/32	3/4
Threads (National Coarse (U.S.S.)		20	18	16	14	13	12	11	10	9	8
Per Inch (National Fine (S.A.E.)..		28	24	24	20	20	18	18	16	14	14
LENGTH UNDER HEAD TO EXTREME POINT, INCHES	1/2	\$1.30	\$1.50	\$1.90	.....	.....	.....	.....	.....	.....	.....
	5/8	1.35	1.60	2.00	.....	.....	.....	.....	.....	.....	.....
	3/4	1.40	1.70	2.10	\$3.00	\$4.70	.....	.....	.....	.....	.....
	7/8	1.50	1.80	2.20	3.10	4.90	.....	.....	.....	.....	.....
	1	1.60	1.90	2.30	3.20	5.10	\$7.90	\$8.60	.....	.....	.....
	1 1/4	1.80	2.10	2.50	3.50	5.50	8.40	9.20	\$13.30	.....	.....
	1 1/2	2.00	2.30	2.70	3.80	5.90	8.90	9.80	14.10	.....	.....
	1 3/4	2.20	2.50	3.00	4.10	6.30	9.40	10.40	14.90	.....	.....
	2	2.40	2.70	3.30	4.50	6.70	10.00	11.00	15.70	\$24.60	\$36.00
	2 1/4	2.60	2.90	3.60	4.90	7.20	10.60	11.60	16.50	25.80	38.00
	2 1/2	2.80	3.20	3.90	5.30	7.70	11.20	12.20	17.30	27.20	40.00
	2 3/4	3.00	3.50	4.30	5.70	8.20	11.80	12.80	18.10	28.60	42.00
	3	3.30	3.80	4.70	6.20	8.70	12.40	13.50	18.90	30.00	44.00
	3 1/4	4.00	4.60	5.30	6.70	9.20	13.00	14.20	19.80	31.50	46.00
	3 1/2	4.70	5.40	5.90	7.20	9.80	13.60	15.00	20.80	33.00	49.00
	3 3/4	.....	.....	6.80	7.90	10.40	14.30	15.80	21.80	35.00	52.00
	4	.....	.....	7.70	8.60	11.00	15.00	16.60	22.80	37.00	55.00
	4 1/2	.....	.....	.....	.....	13.40	17.50	18.60	25.50	41.00	61.00
	5	.....	.....	.....	.....	.....	.....	22.60	30.90	45.00	68.00
	5 1/2	.....	.....	.....	.....	.....	.....	.....	.....	54.00	80.00
	6	.....	.....	.....	.....	.....	.....	.....	.....	63.00	92.00
Add for Each 1/4 Inch.....		.70	.80	.90	1.00	1.20	1.50	2.00	2.70	4.50	6.00

Thread lengths: National Coarse (U.S.S.) thread screws threaded two times diameter of body plus 1/4 inch.

When ordering give diameter first.

National Fine (S.A.E.) thread screws threaded one and one-half times diameter of body plus 1/4 inch.

Flat Head Cap Screws

Milled from the Bar



Flat head cap screws are measured over all for length. Coarse (U.S.S.) threads only carried in stock.

Larger diameters and longer lengths take special price based on quantity.

State diameter first when ordering. Packed in packages.

		Per 100			
Diam. Screw.....in.		1/4	5/16	3/8	7/16
Diam. Head.....in.		1/2	5/8	3/4	13/16
Threads to Inch.....		20	18	16	14
Length Over All, Inches	3/4	\$2.70	\$3.00	\$3.75	\$4.90
	1	3.05	3.35	4.15	5.30
	1 1/4	3.35	3.55	4.45	5.65
	1 1/2	3.65	3.80	4.80	6.05
	1 3/4	3.80	4.10	5.20	6.50
	2	4.00	4.35	5.60	6.90
	2 1/4	4.15	4.65	6.00	7.50
	2 1/2	.....	4.95	6.40	8.05
	2 3/4	.....	5.25	6.80	8.60
	3	.....	.....	7.20	9.15
*Add for each 1/4 inch.....		.90	1.10	1.60	2.00
Diam. Screw.....in.		1/2	9/16	5/8	3/4
Diam. Head.....in.		1 1/8	1	1 1/8	1 3/8
Threads to Inch.....		13	12	11	10
Length Over All, Inches	1	\$6.50	.....	.....	.....
	1 1/4	6.85	\$10.15	.....	.....
	1 1/2	7.35	10.50	\$10.85	.....
	1 3/4	7.80	11.15	11.50	\$16.35
	2	8.30	11.80	12.15	16.75
	2 1/4	9.00	12.60	13.00	17.80
	2 1/2	9.75	13.50	13.90	18.80
	2 3/4	10.50	14.25	14.65	19.80
	3	11.20	15.00	15.40	20.90
*Add for each 1/4 inch.....		2.50	3.00	4.00	5.00
*Add for each 1/4 inch for lengths not exceeding 4 inches.		.....	.....	.....	.....

Cold Drawn Steel Studs
Cut Threads

Nut End

Tap End

Studs carried in stock with N.C. (U.S.S.) threads only. All studs made steam tight on tap end unless otherwise specified.

		Per 100						
Diameter...in.		3/8	7/16	1/2	5/8	3/4	7/8	1
Threads to In.		16	14	13	11	10	9	8
*OVAL OF POINT ON NUT END IS IN ADDITION TO LISTED LENGTH	1 1/4	\$5.40	\$6.50	\$7.05	.....	.....	.....	.....
	1 1/2	5.60	6.75	7.40	\$10.10	.....	.....	.....
	1 3/4	5.85	7.00	7.70	10.40	.....	.....	.....
	2	6.10	7.20	8.05	10.75	\$15.40	.....	.....
	2 1/4	6.35	7.35	8.35	11.05	15.95	.....	.....
	2 1/2	6.60	7.70	8.65	11.40	16.45	\$24.00	.....
	2 3/4	6.80	7.95	9.00	11.75	17.00	25.00	.....
	3	7.05	8.20	9.30	12.05	17.50	26.00	\$34.00
	3 1/4	.....	8.40	9.65	12.40	18.05	27.00	35.50
	3 1/2	.....	8.65	9.95	12.75	18.60	28.00	37.00
	3 3/4	.....	8.90	10.25	13.05	19.10	29.00	38.50
	4	.....	9.25	10.60	13.40	19.60	30.00	40.00
	4 1/4	.....	.....	10.75	13.65	20.05	30.80	41.00
	4 1/2	.....	.....	10.90	13.90	20.40	31.50	42.00
	4 3/4	.....	.....	11.20	14.15	20.85	32.60	43.00
	5	.....	.....	11.55	14.40	21.20	33.00	44.00
	5 1/2	.....	.....	.....	14.85	22.00	34.50	46.00
	6	.....	.....	.....	15.35	22.75	36.00	48.00

Add for

Each 1/4 In... .80 1.00 1.25 2.00 2.50 4.00 5.50

*Add for each 1/4 inch the above extras for lengths not exceeding 6 inches.

Give diameter first when ordering.

Larger diameters and longer lengths take special price based on quantity.

Sizes not listed, prices upon application.

Fillister Head Cap Screws

Effective February 1, 1924



Screws with Coarse (U.S.S.) threads are regular and carried in stock.
State diameter first when ordering.

		Per 100									
Diameter of Screw in. $\frac{1}{4}$		$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	
Diameter of Head in. $\frac{3}{8}$		$\frac{7}{16}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{13}{16}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	
Height of Head in. $\frac{1}{4}$		$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	
Threads to Inch..... 20		18	16	14	13	12	11	10	9	8	
Length Under Hd. to Extreme Point, In.	$\frac{3}{4}$	†\$2.70	†\$3.00	†\$3.75	†\$4.90	†\$6.10	.....	.....	.....	.....
	1.....	†3.05	†3.35	†4.15	†5.30	†6.50	†\$9.80	.....	.....	.....
	$1\frac{1}{4}$	†3.35	†3.55	†4.45	†5.65	†6.85	†10.15	†\$10.50	.....	.....
	$1\frac{1}{2}$	†3.65	†3.80	†4.80	†6.05	†7.35	†10.50	†10.85	†\$15.95	.....
	$1\frac{3}{4}$	†3.80	†4.10	†5.20	†6.50	†7.80	†11.15	†11.50	†16.35	†\$25.70	
	2.....	†4.00	†4.35	†5.60	†6.90	†8.30	†11.80	†12.15	†16.75	†\$33.60	
	$2\frac{1}{4}$	†4.15	†4.65	†6.00	†7.50	†9.00	†12.60	†13.00	†17.80	27.60	
	$2\frac{1}{2}$	†4.35	†4.95	†6.40	†8.05	†9.75	†13.50	†13.90	†18.80	29.10	
	$2\frac{3}{4}$	†4.55	†5.25	†6.80	†8.60	†10.50	†14.25	†14.65	†19.80	30.60	
	3.....	†4.70	†5.55	†7.20	†9.15	†11.20	†15.00	15.40	20.90	32.15	
	$3\frac{1}{4}$.....	.....	†5.85	†7.60	†9.75	†12.05	†15.70	16.10	22.10	34.10
	$3\frac{1}{2}$.....	.....	.....	†8.00	†10.35	†12.80	†16.45	16.85	23.15	36.95
	$3\frac{3}{4}$.....	.....	.....	.....	†10.95	†13.60	†17.15	17.50	24.40	37.90
	4.....	.....	.....	.....	.....	†14.40	†17.85	18.35	25.60	39.80
	$4\frac{1}{4}$.....	.....	.....	.....	.....	.....	†18.60	19.00	26.30	41.50
	$4\frac{1}{2}$.....	.....	.....	.....	.....	.....	.....	19.75	27.00	43.15
	$4\frac{3}{4}$.....	.....	.....	.....	.....	.....	.....	.....	27.80	44.80
	5.....	.....	.....	.....	.....	.....	.....	.....	.....	46.50
	*Add for Each $\frac{1}{4}$ Inch.....		.90	1.10	1.60	2.00	2.50	3.00	4.00	5.00	8.00
											11.00

*Add for Each $\frac{1}{4}$

Inch..... .90 1.10 1.60 2.00 2.50 3.00 4.00 5.00 8.00 11.00
*Add for each $\frac{1}{4}$ inch the above extras for lengths not exceeding 1 inch longer than list. Longer lengths are special with price based on quantity.

Standard packing: †100 in package; †50 in package; †25 in package.

Steel Square Head and Headless Set Screws



Square Head



Cup Point



Headless

		Per 100									
Diameter Screw..inches		$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	
Height Head.....inches		$\frac{3}{16}$	$\frac{15}{64}$	$\frac{9}{32}$	$\frac{21}{64}$	$\frac{3}{8}$	$\frac{15}{32}$	$\frac{9}{16}$	$\frac{21}{32}$	$\frac{3}{4}$	
Threads to Inch.....		20	18	16	14	13	12	11	10	9	
LENGTH UNDER HEAD TO EXTREME POINT, INCHES	$\frac{1}{2}$	\$2.80	\$3.15	\$3.65	.....	.....	.....	.....	.....	.....
	$\frac{5}{8}$	2.85	3.20	3.70	\$5.35	\$6.55	.....	.....	.....	.....
	$\frac{3}{4}$	2.90	3.25	3.75	5.45	6.65	\$11.15	\$11.55	.....	.....
	$\frac{7}{8}$	3.10	3.40	4.00	5.55	6.75	11.35	11.75	.....	.....
	1.....	3.25	3.55	4.30	5.65	6.85	11.55	11.95	\$21.10	.....
	$1\frac{1}{4}$	3.60	3.90	4.80	6.15	7.60	11.75	12.15	21.50	\$35.70	
	$1\frac{1}{2}$	3.95	4.20	5.25	6.65	8.35	11.95	12.35	21.90	36.20	
	$1\frac{3}{4}$	4.25	4.70	5.90	7.25	9.10	12.90	13.30	22.30	36.70	
	2.....	4.55	5.20	6.55	7.90	9.80	13.80	14.20	22.70	37.20	
	$2\frac{1}{4}$	4.80	5.65	7.15	8.65	10.60	14.85	15.30	24.40	39.80	
	$2\frac{1}{2}$	5.10	6.15	7.75	9.45	11.40	16.00	16.50	26.10	42.30	
	$2\frac{3}{4}$	5.35	6.60	8.40	10.15	12.15	17.15	17.65	27.80	44.80	
	3.....	5.65	7.10	9.00	10.90	12.35	18.25	18.85	29.35	47.40	
	$3\frac{1}{4}$.....	.....	.....	.....	11.70	14.15	19.75	20.40	31.30	50.00
	$3\frac{1}{2}$.....	.....	.....	.....	12.45	15.35	21.20	21.90	33.20	52.80
	$3\frac{3}{4}$.....	.....	.....	.....	13.25	16.60	22.70	23.30	35.20	55.60
	4.....	.....	.....	.....	14.00	17.85	24.20	24.85	37.10	58.25
	$4\frac{1}{2}$.....	.....	.....	.....	.....	.....	.....	27.95	41.85	63.85
	5.....	.....	.....	.....	.....	.....	.....	.....	41.85	63.85
	*Add for Each $\frac{1}{4}$ Inch..		.70	.90	1.30	1.60	2.00	2.40	3.20	4.00	6.40

*Add for each $\frac{1}{4}$ inch the above extras for lengths not exceeding 6 inches. Larger dia. and longer lengths take special price based on quantity.

State diameter first when ordering.

Cup point square head and headless screws, National coarse (U.S.S.) threads, hardened, are regular. Points of other shapes are special and made to order with price based on quantity. Packed in bulk or packages.

Headless set screws take same list as square head, measurements being taken over all.

Smaller sizes than listed, namely, 6-32, 8-32, 10-24 and 10-32 take the $\frac{1}{4}$ -inch diameter list for diameter and corresponding length. Headless set screws $\frac{9}{16}$ -inch diameter and larger than $\frac{3}{4}$ -inch diameter and in lengths exceeding 3-inch are made to order.

Mac-it Hollow Set Screws

Produced from Mac-it special alloy steel. Milled from the solid bar. Die-cut threads are accurate in pitch diameter and lead to American Screw Standards. Heat treated to resist upsetting of the point, rounding out of the hex sockets, and splitting of sockets at the corners.

All standard diameters are produced from electric furnace steel, held to a 5-point carbon range, instead of the 10-point carbon range which is standard practice. Grain size is controlled within definite limits, as determined by grain size tests made on each heat. Only such heats are used as test within definite fine grain size limits. This insures a clean, uniform, dependable product.

All sizes listed are standard in American Standard Coarse (U.S.S.) thread series in cup point and are carried in stock.



*Sizes marked with an asterisk are standard and carried in stock in both American Standard Coarse (U.S.S.) and Fine (S.A.E.) thread series in the following types of points: Cup, half dog, oval, flat, and cone.

†To determine the list price of lengths in any diameter longer than listed, add the amount shown in the corresponding column for each 1/4 inch additional length. As such items are not stock items, they are subject to additional charge based upon schedule covering specials.

All other diameters, lengths, threads, points, etc., including socket diameters other than listed are special and prices will be furnished upon application.

Specify diameter, thread, length, and point.

One short series key furnished with each 25 screws.

		Per 100											
Diameter Screw.....in.		No. 8	No. 10	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	
Amer. Std. Coarse (U.S.S.) Threads.....per in.		32	24	20	18	16	14	13	11	10	9	8	
Amer. Std. Fine (S.A.E.) Threads.....per in.		36	32	28	24	24	20	20	18	16	14	14	
Size Hex. Socket.....in.		5/64	3/32	1/8	5/32	3/16	7/32	1/4	5/16	3/8	1/2	9/16	
LENGTH OVER ALL, INCHES	1/8	*\$4.20											
	3/16	*\$4.30	*\$4.70	*\$4.75									
	1/4	*\$4.40	*\$4.75	*\$4.80	*\$4.85	*\$4.90							
	5/16	*\$4.50	*\$4.80	*\$4.85	*\$4.90	*\$4.95							
	3/8	*\$4.60	*\$4.85	*\$4.90	*\$4.95	*\$5.00	*\$5.90	*\$6.80					
	7/16	*\$4.70	*\$4.90	*\$4.95	*\$5.00	*\$5.23	*\$6.00	*\$6.90					
	1/2	*\$4.80	*\$4.95	*\$5.00	*\$5.20	*\$5.45	*\$6.25	*\$7.00	*\$9.80				
	5/8	*\$5.00	*\$5.15	*\$5.35	*\$5.60	*\$5.90	*\$6.75	*\$7.60	*\$10.00	\$11.90			
	3/4	*\$5.35	*\$5.45	*\$5.70	*\$6.00	*\$6.35	*\$7.25	*\$8.20	*\$10.70	12.00	\$14.90		
	7/8	*\$5.65	*\$5.75	*\$6.05	*\$6.40	*\$6.80	*\$7.75	*\$8.80	*\$11.40	12.90	15.00		
	1	*\$5.95	*\$6.05	*\$6.40	*\$6.80	*\$7.25	*\$8.25	*\$9.40	*\$12.10	13.80	16.10	\$20.00	
	1 1/4		*\$6.65	*\$7.10	*\$7.60	*\$8.15	*\$9.25	*\$10.60	*\$13.50	15.60	18.30	22.80	
	1 1/2				*\$7.80	*\$8.40	*\$9.05	*\$10.25	*\$11.80	*\$14.90	17.40	20.50	25.60
	1 3/4				*\$8.50	*\$9.20	*\$9.95	*\$11.25	*\$13.00	*\$16.30	19.20	22.70	28.40
	2				*\$9.20	*\$10.00	*\$10.85	*\$12.25	*\$14.20	*\$17.70	21.00	24.90	31.20
	2 1/4						12.65	14.25	15.40	19.10	22.80	27.10	34.00
	2 1/2						14.45	16.25	16.60	20.50	24.60	29.30	36.80
	3								19.00	23.30	28.20	33.70	42.40
	Add for Each 1/4" Lgth. Not Listed.....		†1.20	†1.20	†1.40	†1.60	†1.80	†2.00	†2.40	†2.80	†3.60	†4.40	†5.60
Extra Keys:													
Short Series.....each		.03	.03	.03	.04	.05	.06	.07	.10	.15	.25	.35	
Long Series.....each		.04	.04	.04	.05	.06	.07	.08	.12	.20	.35	.50	

Types of Set Screw Points

Cup Points



Cup points are the most common, and should usually be used where it is desired to have the screw cut into a soft steel shaft or other part in order to hold effectively. Not suitable for hanger or pivot point use.

Cone Points



Cone points are often used where part to be held must be spot drilled, as for setting machine parts permanently in position. This use also applies to pivot and hanger points.

Flat Points



Flat points are usually employed to anchor machine parts temporarily to shafting. Especially useful where frequent relocating is necessary with least bruise to shaft. Also used where the shaft is hardened. Sometimes used at the back of a brass or soft metal plug.

Oval Points



Oval points are frequently desirable where part to be held is spot drilled for the purpose or with circular or horizontal spline as on shafts.

Half Dog Points



Half dog points are most effective where the screw has direct contact with a hardened steel tool or other part. Unless the part is spot drilled to receive the point, in which case an oval or cone point may be better.

It is suggested that a half dog point can be used with equally good or better results in almost any service where a flat point might otherwise be employed, as it is possible to give much better service on half dog points. Either a half dog, hanger or cone point should be used if a hole is drilled in the part to be held. When dog point set screws are ordered, half dog points are always furnished unless full dog points are specified.

Full Dog Points



Full dog points are not necessary except where it is desirable to have the point go extra deep into the drilled hole in a shaft or other part. Very seldom necessary or desirable.

Unless full dog points are specified, half dog points are always furnished.

Mac-it Square Head Set Screws

Made from Mac-it special alloy steel. Milled from the solid bar. Die-cut threads accurate in pitch diameter and lead to American Screw Standards. Heat treated.



Standard Coarse threads only. Can be furnished in the following points: Full dog, oval, flat, cone, and special. When ordering for use with check nuts, specify on order. This use requires different heat treatment at no extra cost.

Carried in stock in cup and half dog points and American

use requires different heat treatment at no extra cost.

Diameter Screw.....in.	Per 100															
	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	1 1/8	1 1/4	1 3/8	1 1/2	1 5/8		
Threads per Inch.....	20	18	16	14	13	12	11	10	9	8	7	6	6	5 1/2		
1/2	\$4.30	\$5.35	\$6.45													
5/8	4.60	5.65	6.85	\$7.40	\$8.90											
3/4	4.90	5.95	7.25	7.90	9.40	\$11.40	\$12.50									
7/8	5.20	6.25	7.65	8.40	9.90	12.00	13.20									
1	5.50	6.55	8.05	8.90	10.40	12.60	13.90	\$17.20	\$21.50	\$40.00						
1 1/4	6.10	7.15	8.85	9.90	11.40	13.80	15.30	18.90	24.00	44.30						
1 1/2	6.70	7.75	9.65	10.90	12.40	15.00	16.70	20.60	26.50	48.60	\$63.00	\$79.50				
1 3/4	7.30	8.35	10.45	11.90	13.40	16.20	18.10	22.30	29.00	52.90	69.00	87.00				
2	7.90	8.95	11.25	12.90	14.40	17.40	19.50	24.00	31.50	57.20	75.00	94.50	\$135.00	\$156.00	\$198.00	
2 1/4	8.50	9.55	12.05	13.90	15.40	18.60	20.90	25.70	34.00	61.50	81.00	102.00	144.00	166.50	210.00	
2 1/2	9.10	10.15	12.85	14.90	16.40	19.80	22.30	27.40	36.50	65.80	87.00	109.50	153.00	177.00	222.00	
2 3/4	9.70	10.75	13.65	15.90	17.40	21.00	23.70	29.10	39.00	70.10	93.00	117.00	162.00	187.50	234.00	
3	10.30	11.35	14.45	16.90	18.40	22.20	25.10	30.80	41.50	74.40	99.00	124.50	171.00	198.00	246.00	
3 1/4			15.25	17.90	19.40	23.40	26.50	32.50	44.00	78.70	105.00	132.00	180.00	208.50	258.00	
3 1/2			16.05	18.90	20.40	24.60	27.90	34.20	46.50	83.00	111.00	139.50	189.00	219.00	270.00	
3 3/4			16.85	19.90	21.40	25.80	29.30	35.90	49.00	87.30	117.00	147.00	198.00	229.50	282.00	
4			17.65	20.90	22.40	27.00	30.70	37.60	51.50	91.60	123.00	154.50	207.00	240.00	294.00	
4 1/2			21.25	24.90	26.40	29.40	33.50	41.00	56.50	100.20	135.00	169.50	225.00	261.00	318.00	
5			24.85	28.90	30.40	34.20	36.30	44.40	61.50	108.80	147.00	184.50	243.00	282.00	342.00	
5 1/2					34.40	39.00	41.90	51.20	66.50	117.40	159.00	199.50	261.00	303.00	366.00	
6					38.40	43.80	47.50	58.00	71.50	126.00	171.00	214.50	279.00	324.00	390.00	
6 1/2								64.80	81.50	136.00	183.00	229.50	297.00	345.00	414.00	
7								71.60	91.50	146.00	195.00	244.50	315.00	366.00	438.00	
7 1/2								78.40	101.50	156.00	207.00	259.50	333.00	387.00	462.00	
8								85.20	111.50	166.00	219.00	274.50	351.00	408.00	486.00	
8 1/2									121.50	176.00	231.00	289.50	369.00	429.00	510.00	
9									131.50	186.00	243.00	304.50	387.00	450.00	534.00	
10											267.00	334.50	423.00	492.00	582.00	
11											291.00	364.50	459.00	534.00	630.00	
12											315.00	394.50	495.00	576.00	678.00	

Mac-it Slotted Headless Set Screws



Made from Mac-it special alloy steel, and produced by the Mac-it process. Heat treated for resistance to splitting at the slots and upsetting of the points. When used with check nuts, special heat treatment is given at no extra cost.

Carried in stock in cup point only. Other points to order and in quantities of 100 and up take list below.

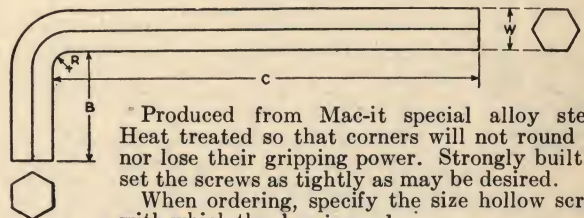
Length Over All In.	Per 100									
	No. 4	No. 5	No. 6	No. 8	No. 10	No. 12	1/4	5/16	3/8	1/2
1/8	\$1.90	\$2.00	\$2.10	\$2.20						
3/16	2.00	2.10	2.20	2.30	\$2.40	\$2.50				
1/4	2.10	2.20	2.30	2.40	2.50	2.60	\$2.80	\$3.10	\$3.40	
5/16	2.20	2.30	2.40	2.50	2.60	2.70	2.95	3.25	3.55	
3/8	2.30	2.40	2.50	2.60	2.70	2.80	3.10	3.40	3.70	\$4.10
7/16	2.40	2.50	2.60	2.70	2.80	2.90	3.25	3.55	3.85	4.30
1/2	2.50	2.60	2.70	2.80	2.90	3.00	3.40	3.70	4.00	4.50
9/16	2.60	2.70	2.80	2.90	3.00	3.10	3.55	3.85	4.15	4.70
5/8	2.70	2.80	2.90	3.00	3.10	3.20	3.70	4.00	4.30	4.90
3/4	2.90	3.00	3.10	3.20	3.30	3.40	4.00	4.30	4.60	5.30
7/8					3.40	3.50	3.60	4.30	4.60	4.90
1					3.60	3.70	3.80	4.60	4.90	5.20
1 1/4							5.20	5.50	5.80	6.90
1 1/2							5.80	6.10	6.40	7.70
Coarse Thread	*40	†40	32	32	†24	24	20	18	16	14

*Also carried in stock in 4-48 diameter in cup point.

†Also carried in stock in 5-44 diameter in cup point.

‡Also carried in stock in 10-32 diameter in cup point.

Mac-it Keys



Produced from Mac-it special alloy steel. Heat treated so that corners will not round off nor lose their gripping power. Strongly built to set the screws as tightly as may be desired.

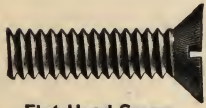
When ordering, specify the size hollow screw with which the key is used.

Set	SCREW SIZE INCHES	Cap	Short Series		Long Series		Max. Hexagon		Max. Length Radius	
			Each	Long Arm Inches	Each	Long Arm Inches	Width Across Flats Inches	Short of Arm Bend Inches	Width Across Flats Inches	Radius of Bend Inches
5			\$.03	1 27/32	\$.04	3 3/32	1 1/16	2 1/32	1 1/16	
6			.03	1 27/32	.04	3 3/32	1 1/16	2 1/32	1 1/16	
8		4	.03	1 31/32	.04	3 3/32	5/64	4 5/64	5/64	
10		5, 6	.03	2 3/32	.04	3 13/32	3/32	3 3/4	3/32	
12			.03	2 3/32	.04	3 15/32	3/32	3 3/4	3/32	
1 1/4		8	.03	2 11/32	.04	3 27/32	1/8	2 7/32	1/8	
5/16		10, 12	.04	2 19/32	.05	4 1/32	5/32	1 5/16	5/32	
3/8		1/4	.05	2 27/32	.06	4 19/32	3/16	1 1/8	3/16	
7/16		5/16	.06	3 3/32	.07	4 31/32	1/2	1 1/8	7/32	
1/2			.07	3 11/32	.08	5 1/32	1/4	1 1/8	1/4	
9/16			.07	3 11/32	.08	5 1/32	1/4	1 1/8	1/4	
5/8		3/8, 7/16	.10	3 31/32	.12	6 3/32	5/16	1 11/32	5/16	
3/4		1/2, 9/16	.15	4 11/32	.20	6 27/32	3/8	1 15/32	3/8	
7/8		5/8	.25	5 11/32	.35	8 1/32	1/2	1 23/32	1/2	
1			.35	5 27/32	.50	9 3/32	9/16	1 27/32	9/16	
1 1/8		3/4, 7/8	.35	5 27/32	.50	9 3/32	9/16	1 27/32	9/16	
1 1/4, 1 3/8		1	.45	6 11/32	.65	9 27/32	5/8	1 31/32	5/8	
1 1/2		1 1/8, 1 1/4, 1 3/8	.65	7 11/32	.95	11 1/32	3/4	2 7/32	3/4	
1 3/4			1.05	9 11/32	1.65	14 1/32	1	2 23/32	1	
2		1 1/2	1.05	9 11/32	1.65	14 1/32	1	2 23/32	1	

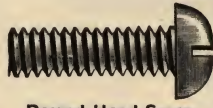
Square Head or Plug Keys

Furnished at the same prices as the short series L keys.

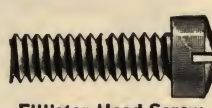
Machine Screws
Steel and Brass
Flat, Round, Fillister and Oval Heads
American Standard—Free Fit—Class 2
Revised April 2, 1928



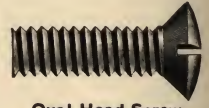
Flat Head Screw



Round Head Screw



Fillister Head Screw



Oval Head Screw

Packed 1 gross in a box.

*Threds. per In...	No. 2		No. 3		No. 4		No. 6		No. 8		No. 10		No. 12		1 1/4"		1 1/2"		1 3/4"		2"	
	Steel	Brass	Steel	Brass	Steel	Brass	Steel	Brass	Steel	Brass	Steel	Brass	Steel	Brass	Steel	Brass	Steel	Brass	Steel	Brass	Steel	Brass
1/8	\$.24	\$.28	\$.25	\$.34	\$.26	\$.40	\$.28	\$.52	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3/16	.25	.30	.26	.36	.27	.42	.29	.54	.35	.70	.45	.95	...	...	...	...	...	...	...	...	...	...
1/4	.26	.32	.27	.38	.28	.44	.30	.58	.36	.76	.46	1.05	\$.64	\$1.60	...	...	...	...	...	...	...	...
5/16	.27	.34	.28	.40	.29	.46	.31	.62	.37	.82	.48	1.15	.66	1.70	\$.80	\$2.30	...	...	...	...	...	...
3/8	.28	.36	.29	.42	.30	.48	.32	.66	.39	.88	.50	1.25	.68	1.80	.84	2.40	\$1.55	\$4.60	...	...	...	...
7/16	.29	.38	.30	.44	.31	.50	.34	.70	.41	.94	.52	1.35	.70	1.90	.88	2.50	1.60	4.80	...	...	...	...
1/2	.30	.40	.31	.46	.32	.54	.36	.76	.43	1.02	.54	1.45	.74	2.00	.92	2.65	1.65	5.00	\$2.20	\$7.10	...	...
5/8	.32	.44	.33	.52	.34	.62	.40	.92	.47	1.20	.58	1.75	.82	2.20	1.00	2.95	1.75	5.40	2.40	7.70	...	...
3/4	.33	.50	.34	.58	.36	.68	.43	1.00	.49	1.30	.62	1.90	.86	2.40	1.05	3.15	1.80	5.80	2.50	8.20	\$5.10	\$15.75
7/8	.34	.56	.36	.66	.38	.74	.46	1.10	.53	1.45	.66	2.05	.92	2.60	1.10	3.45	1.90	6.30	2.65	8.90	5.85	17.10
1	...	...	...	...	.42	.82	.50	1.20	.57	1.60	.70	2.20	.98	2.80	1.20	3.75	2.00	6.80	2.85	9.60	6.60	18.50
1 1/8	...	...	...	...	.46	.90	.54	1.30	.63	1.75	.76	2.35	1.04	3.00	1.30	4.05	2.10	7.30	3.05	10.30	7.00	22.10
1 1/4	...	...	...	...	.52	1.00	.58	1.45	.69	1.90	.82	2.55	1.10	3.25	1.40	4.35	2.25	7.80	3.25	11.00	7.35	22.10
1 1/2	...	...	...	...	.60	1.25	.68	1.65	.82	2.15	.95	2.90	1.24	3.75	1.60	4.95	2.45	8.50	3.55	12.10	8.00	26.65
1 3/4	...	...	...	...	...	.82	1.95	.95	2.45	1.12	3.35	1.40	4.25	1.80	5.55	2.75	9.30	3.95	13.40	8.60	28.10	...
2	...	...	...	...	...	.96	2.25	1.08	2.75	1.30	3.80	1.60	4.75	2.00	6.15	3.05	10.40	4.40	14.70	9.40	30.20	...
2 1/4	...	...	...	...	...	...	...	1.25	3.10	1.50	4.25	1.80	5.25	2.25	6.75	3.35	11.50	4.85	16.20	10.30	32.95	...
2 1/2	...	...	...	...	...	...	...	1.45	3.45	1.70	4.75	2.05	5.75	2.50	7.35	3.65	12.60	5.40	17.80	11.50	35.65	...
2 3/4	...	...	...	...	...	...	...	1.65	3.80	1.95	5.25	2.30	6.25	2.75	8.00	4.00	13.70	6.00	19.50	...	...	...
3	...	...	...	...	...	...	...	1.85	4.15	2.15	5.75	2.60	6.75	3.10	8.65	4.40	14.90	6.60	21.60	13.90	40.65	...

*Standard coarse and standard fine pitches, as recommended by National Screw Thread Commission.
Machine screws are furnished to American National Standard dimensions unless otherwise specified.
Lengths and diameters not listed are special. Prices will be quoted upon application.
N.C. (National Coarse thread) furnished unless otherwise specified.

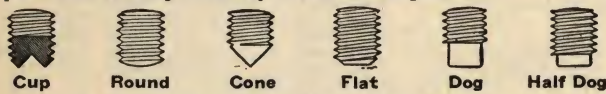
Shakeproof Self-Locking Set Screws

PAT. U.S.A. 1,767,287; 1,764,168



This self-locking set screw employs a simple but positive locking construction—nothing more than offsetting the slotted end of the screw.

After the screw has been inserted, the offset edges exert a strong friction resistance against any backward movement of the screw. Neither vibration nor strain can loosen this grip, making it possible to eliminate all extra operations now practiced to keep ordinary set screws in position.



Illustrating Various Points Available

Prices, sizes and complete information furnished on request.

Brass and Steel Threaded Rods
Continuous Thread



Packed in bulk,

Size and No. of Threads	Steel per 100 Feet	Brass per 100 Feet	Lengths Carried in Stock Feet
6-32	\$3.50	\$5.00	1
8-32	3.75	5.50	1
10-32	4.00	7.00	1
10-24	4.00	7.00	1
12-24	5.00	8.50	2
14-20	6.00	10.00	2
14-24	6.00	10.00	2
14-27	6.00	10.00	2
1/4-20	6.00	10.00	2
5/16-18	7.50	18.00	2
3/8-16	9.50	28.00	2

Special sizes made to order in quantities.

Malleable Iron Thumb Screws



Per 100

Length Under Head In.	DIAM. AND N. C. THREADS PER INCH					
	3/16 24	1/4 20	5/16 18	3/8 16	7/16 14	1 1/2 13 or 12
1/2	\$1.20	\$1.50	\$2.00	\$2.70	...	...
5/8	1.45	1.80	2.35	3.00	...	...
3/4	1.45	1.80	2.35	3.00	...	...
1	1.70	2.10	2.70	3.40	\$4.60	\$5.80
1 1/4	1.95	2.40	3.05	3.80	5.20	6.50
1 1/2	2.20	2.70	3.40	4.20	5.80	7.20
2	2.80	3.30	4.10	5.00	7.00	8.60
2 1/2	...	4.30	5.20	6.20	8.60	10.40
3	...	5.30	6.30	7.40	10.20	12.20

We are prepared to take care of your requirements for Special Nuts, Bolts, Screws, etc., in Everdur, Monel, Stainless Steel and other special compositions.

Phillips Recessed Head Machine Screws

Steel—Flat, Round, Oval, Binding, Fillister and Truss Heads

Brass—Flat, Round, Oval, Binding and Fillister Heads

Rolled Thread—American Standard—Free Fit—Class 2

Effective April 1, 1940



Flat Head



Round Head



Oval Head



Binding Head



Fillister Head



Truss Head

No. 2

Threads per Inch—N.C., 56; N.F., 64

Length Inches	Steel			Brass		
	Plain per Gross	*Plated per Gross	Driver Size No.	Plain per Gross	*N.P. per Gross	Driver Size No.
1/8	\$.43	\$.44	1	\$.50	\$.51	1
3/16	.40	.41	1	.46	.47	1
1/4	.37	.38	1	.42	.43	1
5/16	.22	.23	1	.30	.31	1
3/8	.23	.24	1	.32	.33	1
7/16	.24	.25	1	.34	.35	1
1/2	.25	.26	1	.36	.37	1
5/8	.27	.28	1	.39	.40	1
3/4	.29	.30	1	.42	.43	1
7/8	.31	.32	1	.45	.47	1

No. 3

Threads per Inch—N.C., 48; N.F., 56

Length Inches	Steel			Brass		
	Plain per Gross	*Plated per Gross	Driver Size No.	Plain per Gross	*N.P. per Gross	Driver Size No.
1/8	\$.42	\$.43	1	\$.48	\$.49	1
3/16	.39	.40	1	.44	.45	1
1/4	.36	.37	1	.40	.41	1
5/16	.23	.24	1	.32	.33	1
3/8	.24	.25	1	.34	.35	1
7/16	.25	.26	1	.36	.37	1
1/2	.26	.27	1	.38	.39	1
5/8	.28	.29	1	.41	.43	1
3/4	.30	.32	1	.44	.46	1
7/8	.32	.34	1	.47	.49	1

No. 4

Threads per Inch—N.C., 40; N.F., 48

Length Inches	Steel			Brass		
	Plain per Gross	*Plated per Gross	Driver Size No.	Plain per Gross	*N.P. per Gross	Driver Size No.
1/8	\$.41	\$.42	1	\$.46	\$.47	1
3/16	.38	.39	1	.42	.43	1
1/4	.35	.36	1	.38	.39	1
5/16	.24	.25	1	.34	.35	1
3/8	.25	.26	1	.36	.37	1
7/16	.26	.27	1	.38	.40	1
1/2	.27	.29	1	.40	.42	1
5/8	.29	.31	1	.43	.45	1
3/4	.31	.33	1	.46	.48	1
7/8	.33	.35	1	.49	.51	1
1	.35	.37	1	.53	.56	1
1 1/8	.38	.41	1	.57	.60	1
1 1/4	.41	.44	1	.62	.65	1

No. 5

Threads per Inch—N.C., 40; N.F., 44

Length Inches	Steel			Brass		
	Plain per Gross	*Plated per Gross	Driver Size No.	Plain per Gross	*N.P. per Gross	Driver Size No.
1/4	\$.34	\$.35	2	\$.36	\$.37	2
5/16	.25	.27	2	.36	.38	2
3/8	.26	.28	2	.38	.40	2
7/16	.27	.29	2	.40	.42	2
1/2	.28	.30	2	.42	.44	2
5/8	.30	.32	2	.46	.48	2
3/4	.32	.34	2	.50	.53	2
7/8	.34	.37	2	.54	.57	2
1	.36	.39	2	.58	.61	2
1 1/8	.39	.42	2	.63	.66	2
1 1/4	.42	.45	2	.69	.73	2

No. 6

Threads per Inch—N.C., 32; N.F., 40

Length Inches	Steel			Brass		
	Plain per Gross	*Plated per Gross	Driver Size No.	Plain per Gross	*N.P. per Gross	Driver Size No.
1/4	\$.33	\$.35	2	\$.35	\$.37	2
5/16	.26	.28	2	.38	.40	2
3/8	.27	.29	2	.41	.43	2
7/16	.28	.30	2	.44	.46	2
1/2	.29	.31	2	.47	.49	2
5/8	.31	.34	2	.52	.55	2
3/4	.33	.36	2	.57	.60	2
7/8	.35	.38	2	.62	.65	2
1	.37	.41	2	.68	.72	2
1 1/8	.40	.44	2	.74	.78	2
1 1/4	.43	.47	2	.81	.86	2

No. 8

Threads per Inch—N.C., 32; N.F., 36

Length Inches	Steel			Brass		
	Plain per Gross	*Plated per Gross	Driver Size No.	Plain per Gross	*N.P. per Gross	Driver Size No.
1/4	\$.27	\$.29	2	\$.47	\$.50	2
5/16	.28	.30	2	.50	.53	2
3/8	.29	.31	2	.53	.56	2
7/16	.30	.32	2	.56	.59	2
1/2	.31	.33	2	.59	.63	2
5/8	.33	.36	2	.65	.69	2
3/4	.35	.39	2	.71	.76	2
7/8	.37	.42	2	.78	.83	2
1	.40	.45	2	.85	.91	2
1 1/8	.44	.49	2	.93	.99	2
1 1/4	.48	.54	2	1.02	1.08	2
1 1/2	.55	.62	2	1.22	1.29	2

No. 10

Threads per Inch—N.C., 24; N.F., 32

Length Inches	Steel			Brass		
	Plain per Gross	*Plated per Gross	Driver Size No.	Plain per Gross	*N.P. per Gross	Driver Size No.
5/16	\$.30	\$.34	2	\$.62	\$.66	2
3/8	.31	.35	2	.66	.70	2
7/16	.32	.36	2	.70	.75	2
1/2	.33	.38	2	.74	.79	2
5/8	.35	.40	2	.81	.87	2
3/4	.37	.43	2	.88	.94	2
7/8	.40	.46	2	.96	1.03	2
1	.44	.51	2	1.05	1.13	2
1 1/8	.48	.56	2	1.15	1.24	2
1 1/4	.53	.62	2	1.27	1.37	2
1 1/2	.61	.71	2	1.52	1.63	2
1 3/4	.70	.81	2	1.78	1.90	2
2	.80	.92	2	2.05	2.18	2

No. 12

Threads per Inch—N.C., 24; N.F., 28

Length Inches	Steel			Brass		
	Plain per Gross	*Plated per Gross	Driver Size No.	Plain per Gross	*N.P. per Gross	Driver Size No.
3/8	\$.33	\$.38	3	\$.80	\$.86	3
7/16	.35	.41	3	.85	.91	3
1/2	.37	.43	3	.91	.98	3
5/8	.40	.47	3	1.00	1.07	3
3/4	.43	.51	3	1.10	1.18	3
7/8	.46	.55	3	1.22	1.31	3
1	.51	.61	3	1.35	1.45	3
1 1/8	.56	.67	3	1.49	1.60	3
1 1/4	.62	.74	3	1.64	1.76	3
1 1/2	.71	.84	3	1.94	2.07	3
1 3/4	.81	.95	3	2.26	2.41	3
2	.92	1.08	3	2.59	2.76	3

1/4-Inch

Threads per Inch—N.C., 20; N.F., 28

Length Inches	Steel			Brass		
	Plain per Gross	*Plated per Gross	Driver Size No.	Plain per Gross	*N.P. per Gross	Driver Size No.
3/8	\$.38	\$.46	3	\$.1.05	\$.1.13	3
7/16	.41	.49	3	1.11	1.20	3
1/2	.44	.53	3	1.18	1.28	3
5/8	.48	.58	3	1.31	1.42	3
3/4	.52	.63	3	1.45	1.57	3
7/8	.56	.68	3	1.59	1.72	3
1	.61	.74	3	1.74	1.88	3
1 1/8	.66	.80	3	1.90	2.05	3
1 1/4	.72	.88	3	2.07	2.24	3
1 1/2	.82	1.00	3	2.42	2.61	3
1 3/4	.93	1.13	3	2.78	2.99	3
2	1.05	1.27	3	3.15	3.38	3
2 1/4	1.18	1.42	3	3.53	3.79	3
2 1/2	1.32	1.59	3	3.92	4.21	3

5/16-Inch

Threads per Inch—N.C., 18; N.F., 24

Length Inches	Steel			Brass		
	Plain per Gross	*Plated per Gross	Driver Size No.	Plain per Gross	*N.P. per Gross	Driver Size No.
1/2	\$.86	\$.1.01	4	\$.1.95	\$.2.11	4
5/8	.91	1.08	4	2.16	2.34	4
3/4	.96	1.15	4	2.38	2.58	4
7/8	1.01	1.22	4	2.61	2.83	4
1	1.07	1.30	4	2.85	3.09	4
1 1/8	1.14	1.39	4	3.10	3.36	4
1 1/4	1.21	1.48	4	3.36	3.64	4
1 1/2	1.32	1.62	4	3.88	4.20	4
1 3/4	1.44	1.77	4	4.41	4.77	4
2	1.57	1.93	4	4.95	5.35	4
2 1/4	1.71	2.11	4	5.50	5.94	4
2 1/2	1.86	2.30	4	6.06	6.54	4
2 3/4	2.02	2.51	4	6.63	7.16	4
3	2.20	2.74	4	7.21	7.79	4

3/8-Inch

Threads per Inch—N.C., 16; N.F., 24

Length Inches	Steel			Brass		
	Plain per Gross	*Plated per Gross	Driver Size No.	Plain per Gross	*N.P. per Gross	Driver Size No.
3/4	\$.1.40	\$.1.70	4	\$.4.45	\$.4.77	4
7/8	1.47	1.79	4	4.75	5.10	4
1	1.54	1.89	4	5.06	5.44	4
1 1/8	1.62	2.00	4	5.38	5.79	4
1 1/4	1.70	2.11	4	5.71	6.15	4
1 1/2	1.86	2.32	4	6.37	6.86	4
1 3/4	2.03	2.54	4	7.05	7.60	4
2	2.20	2.76	4	7.75	8.36	4
2 1/4	2.38	2.99	4	8.48	9.15	4
2 1/2	2.56	3.23	4	9.23	9.96	4
2 3/4	2.75	3.48	4	10.01	10.80	4
3	2.94	3.73	4	10.90	11.75	4

1/2-Inch

Threads per Inch—N.C., 13

Length Inches	Steel			Brass		
	Plain per Gross	*Plated per Gross	Driver Size No.	Plain per Gross	*N.P. per Gross	Driver Size No.
1	\$.2.13	\$.2.75	4	.....	.....	.....
1 1/8	2.23	2.89	4	.....	.....	.....
1 1/4	2.33	3.04	4	.....	.....	.....
1 1/2	2.51	3.31	4	.....	.....	.....
1 3/4	2.71	3.60	4	.....	.....	.....
2	2.93	3.91	4	.....	.....	.....
2 1/4	3.16	4.23	4	.....	.....	.....
2 1/2	3.40	4.56	4	.....	.....	.....

Packed one gross in a box.

Four types of screw heads are shown: Round, Oval, Binding, and Stove. Each is labeled with its name below the illustration.

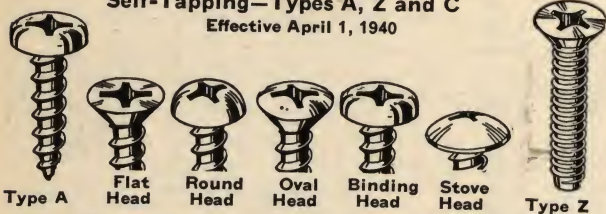
Type Z same as Type A except has blunt point.

Flat Type A			Per Gross							
Leth. In.	No. 2 Diam.		No. 4 Diam.		No. 6 Diam.		No. 7 Diam.			
	Plain	*Plated	Plain	*Plated	Plain	*Plated	Plain	*Plated		
1/8	*.24	*.25								
3/16	*.24	*.25	*.25	*.26	*.26	*.28	...	...
1/4	*.24	*.25	.25	.26	.26	.28	*.27	*.30		
5/16	*.25	*.26	*.26	*.27	*.27	*.29	*.28	*.31		
3/8	*.25	*.26	.26	.27	.27	.29	.28	.31		
1/2	...	...	.27	.29	.28	.30	.29	.32	
5/8	...	...	.28	.30	.29	.32	.30	.34	
3/4	...	...	.29	.31	.30	.33	.31	.35	
7/8	...	...	...	...	.31	.35	.32	.37	
1	...	...	...	...	.32	.36	.33	.38	
1 1/4	...	...	...	...	†.36	†.41	†.38	†.43	
1 1/2	...	...	...	...	†.40	†.46	†.42	†.49	
Leth. In.	No. 8 Diam.		No. 10 Diam.		No. 12 Diam.		No. 14 Diam.			
	Plain	*Plated	Plain	*Plated	Plain	*Plated	Plain	*Plated		
1/4	*.30	*.33	*.35	*.40	...	...	...	...
5/16	*.30	*.33	*.35	*.40	...	...	...	...
3/8	.30	.33	.35	.40	*.39	*.45	*.46	*.55		
1/2	.32	.36	.37	.42	.42	.49	.50	.60		
5/8	.34	.38	.39	.45	.45	.53	.54	.65		
3/4	.36	.41	.41	.48	.48	.57	.58	.71		
7/8	.38	.43	.43	.50	.51	.61	.62	.76		
1	.40	.46	.45	.53	.54	.65	.66	.81		
1 1/4	.44	.51	.49	.59	†.60	†.73	.74	.92		
1 1/2	.48	.56	.53	.64	†.66	†.81	.82	1.02		
1 3/4	...	...	.57	.69	...	...	.90	1.12	
2*	...	...	.61	.75	...	...	.98	1.23	

Available in Type Z only. †Available in Type A only.

Self-Tapping—Types A, Z and C

Effective April 1, 1940



Type C is similar to type Z except has fine thread.

[illegible]

†All sizes listed are standard with flat, round, oval and binding head. Stove head is standard only on sizes marked (†).

Lengths and diameters not listed are special. Prices on application.

Hexagon head screws are furnished on the same basis as the specials except that the 1/4-inch diameter screws have special prices.


























		Per 1000—Cadmium-Plated							
Threads per In.		40	32	32	24 & 32	24	20	18	16
Dia. Screw		No. 4	No. 6	No. 8	No. 10	No. 12	1/4"	5/16"	3/8"
LENGTH SCREW, IN.	3/16	\$1.93	\$2.13						
	1/4	1.93	2.13	\$2.47	\$2.89				
	5/16	1.93	2.16	2.56	2.98				
	3/8	1.96	2.22	2.62	3.09	\$3.71	\$4.78		
	7/16	2.02	2.27	2.71					
	1/2	2.07	2.33	2.82	3.29	4.00	5.16	*	*
	5/8	2.18	2.47	3.00	3.51	4.22	5.60	*	*
	3/4	2.29	2.60	3.16	3.71	4.58	6.07	*	*
	7/8		2.73	3.36	3.93	4.93	6.53	*	*
	1		2.87	3.56	4.18	5.29	6.95	*	*
1 1/4				4.62	5.93	7.80	*	*	
1 1/2				5.20	6.64	8.62	*	*	

List prices of plain finish screws and special finish extras on request. *Prices on application.

MATERIAL THICKNESS	Up to	†Drill Sizes						
.050	44	37	30	25	17	8	G	O
.066	42	33	28	23	15	4	G	O
.083	42	33	28	23	15	4	G	O
.109	41	33	28	23	15	4	G	O
.125	41	31	27	20	13	3	H	P
.140	41	31	27	20	13	3	H	P
$\frac{3}{16}$	..	..	27	19	12	3	H	P
$\frac{1}{4}$	..	..	..	19	11	2	I	P
$\frac{5}{16}$	..	..	..	19	11	2	I	P
$\frac{3}{8}$	..	..	..	..	..	-	I	P

†For sheet steel only. Drill sizes for other materials will be slightly larger or smaller.

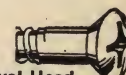
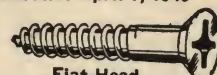
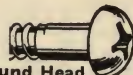
For Wood and Machine Screws

No.	Diam. In.		No.	Diam. In.	
0	.0578		17	.2816	
1	.0710		18	.2947	
2	.0842		20	.3210	
3	.0973		22	.3474	
4	.1105		24	.3737	
5	.1236		26	.4000	
6	.1368		28	.4263	
7	.1500		30	.4520	
8	.1631				
9	.1763				
10	.1894				
11	.2026				
12	.2158				
13	.2289				
14	.2421				
15	.2552				
16	.2684				

Illustrations are actual size.



1/4-Inch			1-Inch-Cont.			2 1/4-Inch-Cont.		
No.	Steel	Brass	No.	Steel	Brass	No.	Steel	Brass
0	\$.30	\$.64	5	\$.50	\$1.65	11	\$1.25	\$6.35
1	.30	.66	6	.54	1.85	12	1.35	7.15
2	.30	.70	7	.58	2.15	14	1.75	9.00
3	.32	.76	8	.62	2.40	16	2.20	11.35
4	.32	.86	9	.66	2.70	18	2.65	13.60
			10	.70	3.00	20	3.10	.....
0	3/8-Inch		11	.75	3.35		2 1/2-Inch	
1	.32	.70	12	.80	3.80	6	\$.90	.....
2	.32	.76	14	1.10	4.90	7	.96	.....
3	.34	.82	16	1.40	.....	8	1.05	.....
4	.34	.90		1 1/4-Inch		9	1.15	.....
5	.34	.98	4	\$.52	.....	10	1.25	\$6.20
6	.38	1.10	5	.54	.....	11	1.35	7.00
7	.42	.....	6	.58	\$2.20	12	1.50	7.80
8	.46	.....	7	.62	2.50	14	1.85	9.85
			8	.66	2.80	16	2.40	12.50
1	1/2-Inch		9	.70	3.20	18	3.00	15.10
2	\$.34	\$.78	10	.76	3.60	20	3.60	.....
3	.34	.84	11	.84	4.00		2 3/4-Inch	
4	.36	.90	12	.92	4.45	8	\$1.10	.....
5	.36	.98	14	1.25	5.75	9	1.20	.....
6	.40	1.25	16	1.55	.....	10	1.32	.....
7	.44	1.45	18	1.85	.....	11	1.45	.....
8	.48	1.65		1 1/2-Inch		12	1.65	.....
9	.52	.....	4	\$.60	.....	14	2.05	.....
10	.56	.....	5	.62	.....	16	2.60	.....
			6	.66	\$2.45	18	3.20	.....
2	3/4-Inch		7	.70	2.80	20	3.80	.....
3	\$.36	\$.90	8	.75	3.20		3-Inch	
4	.38	1.00	9	.80	3.60	8	\$1.20	.....
5	.40	1.10	10	.86	4.00	9	1.30	.....
6	.44	1.40	11	.95	4.55	10	1.42	.....
7	.48	1.60	12	1.05	5.10	11	1.55	.....
8	.52	1.80	14	1.35	6.50	12	1.75	\$9.15
9	.56	2.05	16	1.70	.....	14	2.25	11.20
10	.60	2.30	18	2.05	.....	16	2.80	14.40
11	.64	.....	20	2.40	.....	18	3.40	17.65
12	.68	.....		1 3/4-Inch		20	4.00	.....
			6	\$.72	.....	24	4.95	.....
2	3/4-Inch		7	.78	.....		3 1/2-Inch	
3	\$.38	\$1.00	8	.84	\$3.65	10	\$1.90	.....
4	.40	1.10	9	.90	4.10	11	2.10	.....
5	.42	1.20	10	.96	4.60	12	2.30	\$11.20
6	.46	1.50	11	1.05	5.20	14	2.80	13.25
7	.50	1.75	12	1.15	5.85	16	3.35	16.65
8	.54	2.00	14	1.50	7.40	18	3.95	20.20
9	.58	2.25	16	1.90	.....	20	4.55	.....
10	.62	2.50	18	2.30	.....	24	5.70	.....
11	.66	2.75	20	2.70	.....		4-Inch	
12	.70	3.10		2-Inch		12	\$2.50	.....
14	.90	.....	6	\$.78	.....	14	3.00	.....
			7	.84	.....	16	3.55	.....
3	7/8-Inch		8	.90	\$4.00	18	4.20	.....
4	\$.44	.....	9	1.00	4.50	20	4.95	.....
5	.46	\$1.40	10	1.10	5.10	24	6.60	.....
6	.48	1.55	11	1.20	5.75		4 1/2-Inch	
7	.52	1.75	12	1.30	6.55	14	\$3.30	.....
8	.56	2.00	14	1.60	8.15	16	3.85	.....
9	.60	2.25	16	2.00	10.30	18	4.50	.....
10	.64	2.50	18	2.40	12.45	20	5.25	.....
11	.68	2.75	20	2.80	.....	24	7.10	.....
12	.72	3.10		2 1/4-Inch			5-Inch	
14	.76	3.45	6	\$.82	.....	14	\$3.65	.....
			7	.88	.....	16	4.20	.....
3	1-Inch		8	.95	.....	18	5.00	.....
4	\$.48	.....	9	1.05	.....	20	6.00	.....
	.46	\$1.50	10	1.15	\$5.60	24	7.60	.....

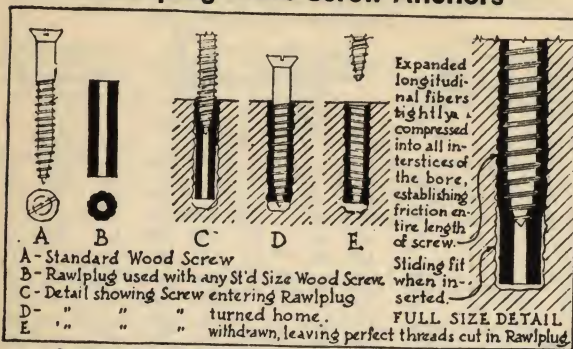


No. 2			No. 7			No. 10			No. 14		
Lgth.	Plain	Plated	Lgth.	Plain	Plated	Lgth.	Plain	Plated	Lgth.	Plain	Plated
In.	Gross	Gross	In.	Gross	Gross	In.	Gross	Gross	In.	Gross	Gross
1/4	\$.60	\$.62	3/8	\$.44	\$.46	1/2	\$.52	\$.56	7/8	\$.75	\$.84
5/16	.56	.58	1/2	.46	.48	5/8	.54	.58	1	.79	.89
3/8	.52	.54	5/8	.48	.51	3/4	.56	.61	1 1/4	.87	.99
1/2	.41	.43	3/4	.50	.53	7/8	.59	.64	1 1/2	1.00	1.11
5/8	.43	.45	7/8	.52	.55	1	.62	.68	1 3/4	1.13	1.29
3/4	.45	.47	1	.55	.59	1 1/4	.68	.75	2	1.28	1.46
No. 3			No. 8			No. 11			No. 16		
1/4	\$.58	\$.60	1 1/4	.59	.64	1 1/2	.78	.86	1 1/4	1.03	1.18
3/8	.50	.52	1 1/2	.67	.72	1 3/4	.89	.99	1 1/2	1.17	1.34
1/2	.42	.44	1 3/4	.76	.82	2	1.01	1.12	1 3/4	1.32	1.52
5/8	.44	.46	2	.86	.93	2 1/4	1.14	1.26	2	1.48	1.70
3/4	.46	.48				2 1/2	1.28	1.41	2 1/4	1.65	1.89
7/8	.48	.50				2 1/2	1.28	1.41	2 1/2	1.83	2.10
No. 4			No. 9			No. 12			No. 18		
1/4	\$.56	\$.58	1/2	\$.46	\$.48	5/8	\$.60	\$.65	1 1/4	1.31	1.50
3/8	.48	.50	1/2	.48	.51	3/4	.63	.69	1 1/2	1.47	1.68
1/2	.43	.45	5/8	.50	.53	7/8	.66	.73	1 3/4	1.63	1.87
5/8	.45	.47	3/4	.52	.56	1	.69	.77	2	1.80	2.07
3/4	.47	.49	7/8	.54	.58	1 1/4	.76	.85	2 1/2	2.15	2.48
7/8	.49	.51	1	.57	.61	1 1/2	.88	.99	3	2.54	2.92
1	.51	.53	1 1/8	.59	.64	1 3/4	1.00	1.13	3 1/2	2.96	3.40
No. 5			1 1/2	.62	.67	2	1.07	1.19	4	3.43	3.93
3/8	\$.42	\$.44	1 1/2	.70	.76	2 1/4	1.21	1.35	No. 20		
1/2	.44	.46	1 3/4	.79	.86	2 1/2	1.36	1.51	1 1/2	\$1.80	\$2.05
5/8	.46	.48	2	.89	.97				1 3/4	1.97	2.25
3/4	.48	.50	2 1/4	1.00	1.09				2	2.14	2.46
7/8	.50	.52	2 1/2	1.12	1.22				2 1/2	2.49	2.88
1	.52	.55							3	2.90	3.36
No. 6									No. 21		
3/8	\$.43	\$.45	1/2	\$.50	\$.53	5/8	\$.62	\$.65	1 1/4	1.41	1.61
1/2	.45	.47	5/8	.52	.56	3/4	.63	.69	1 1/2	1.44	1.61
5/8	.47	.49	3/4	.54	.58	7/8	.66	.73	2 1/4	1.60	1.79
3/4	.49	.52	7/8	.56	.61	1	.69	.77	2 1/2	1.76	1.96
7/8	.51	.54	1	.59	.64	1 1/4	.76	.85	3 1/2	2.08	2.32
1	.53	.56	1 1/4	.65	.71	1 1/2	.88	.99	4	2.42	2.69
1 1/4	.57	.61	1 1/2	.74	.81	1 3/4	1.00	1.13			
1 1/2	.65	.69	1 3/4	.84	.92						

No. 2				No. 5 (Cont.)				No. 8				No. 10 (Cont.)			
Plain		T.N.P.		Plain		T.N.P.		Plain		T.N.P.		Plain		T.N.P.	
Lgth.	per	per		Lgth.	per	per		Lgth.	per	per		Lgth.	per	per	
In.	Gross	Gross		In.	Gross	Gross		In.	Gross	Gross		In.	Gross	Gross	
1/4	.70	.71		5/8	.70	.72		1/2	.84	.87		1 1/4	\$1.76	\$1.84	
5/16	.66	.67		3/4	.75	.77		5/8	.92	.95		1 1/2	2.04	2.13	
3/8	.62	.63		7/8	.81	.84		3/4	1.00	1.04		1 3/4	2.32	2.42	
1/2	.49	.50		1	.87	.90		7/8	1.10	1.14		2	2.61	2.73	
5/8	.52	.53		No. 6				1	1.20	1.25		2 1/2	3.21	3.35	
3/4	.55	.56		3/8	.66	.68		1 1/8	1.30	1.36		No. 12			
No. 3				1/2	.71	.73		1 1/4	1.42	1.48		1	\$1.79	\$1.87	
1/4	.68	.69		5/8	.77	.79		1 1/2	1.67	1.74		1 1/4	2.11	2.21	
3/8	.60	.61		3/4	.83	.86		1 3/4	1.93	2.01		1 1/2	2.45	2.57	
1/2	.53	.54		7/8	.89	.92		2	2.20	2.29		1 3/4	2.79	2.92	
5/8	.56	.57		1	.96	.99		No. 9				2	3.14	3.30	
3/4	.60	.62		1 1/4	1.16	1.20		3/4	\$1.12	\$1.16		2 1/2	3.85	4.04	
No. 4				1 1/2	1.38	1.43		7/8	1.23	1.28		3	4.58	4.80	
1/4	.66	.67		No. 7				1	1.34	1.40		No. 14			
3/8	.58	.59		1/2	.77	.79		1 1/4	1.58	1.65		1	\$2.14	\$2.25	
1/2	.59	.61		5/8	.84	.87		1 1/2	1.85	1.93		1 1/4	2.48	2.61	
5/8	.63	.65		3/4	.89	.91		1 3/4	2.12	2.21		1 1/2	2.88	3.03	
3/4	.67	.69		7/8	.99	1.03		2	2.40	2.50		1 3/4	3.28	3.45	
1	.76	.78		1	1.07	1.11		No. 10				2	3.69	3.88	
No. 5				1 1/4	1.28	1.33		3/4	\$1.26	\$1.31		2 1/2	4.51	4.74	
3/8	.60	.62		1 1/2	1.51	1.57		7/8	1.37	1.43		3	5.36	5.64	
1/2	.65	.67						1	1.50	1.56					

Driver Size No.—Nos. 2, 3 and 4 use No. 1; No. 5, 6, 7, 8 and 9 use No. 2; No. 10, round head uses No. 2, flat and oval heads take No. 3; Nos. 11, 12, 14 and 16 use No. 3 and Nos. 18 and 20 use No. 4 driver.

Rawlplug Fibre Screw Anchors



Application of Rawlplug with Standard Wood Screw

A hollow tube of stiffened longitudinal strands of jute fiber, so cemented that once in place it is unaffected by moisture or change of temperature. Invisible when in position. As screw is turned home in plug, strands expand and enter interstices of material, obtaining a strong, permanent grip. The screw forms a perfect thread in Rawlplug which permits withdrawing and reinserting the screw. Screw will pull in two or material will fail before Rawlplug will come out. Due to the unusual composition of the plug, it will not work loose from vibrations and shocks.

Rawlplugs Only—In Boxes of 100

Rawlplug No.	Use with Screw No.	Diam. Drill Req'd In.	Use with Screw No.	PER 100 LENGTH OF RAWLPLUG, INCHES					
				5/8	3/4	1	1 1/4	1 1/2	2
6	5-6	5/32	6	\$1.25	\$1.30	\$1.45			
8	7-8	11/64	8	1.50	1.60	1.80		\$2.20	
10	9-10	3/16	10		1.80	2.05	\$2.30	2.55	
12	11-12	1/4	12		2.20	2.45	2.70	2.95	\$3.45
14	14	5/32	14			2.90	3.20	3.50	4.10

Rawlplugs Only—In Boxes of 50

Rawlplug No.	Use with Screw No.	Diam. Drill Req'd In.	Use with Screw No.	Price	Price	Price
16	16	5/16	16	\$3.30	\$4.10	\$4.90
20	18-20	3/8	20	4.90	5.90	6.90

For 1/4-inch lag screw, use No. 14 or No. 16 Rawlplug.

For 5/16-inch lag screw, use No. 20 Rawlplug.

Standard package, 12 boxes of same size and length.

Rawlplug Contractors' Outfits

Made up especially for electrical and plumbing contractors, containing 150 of the sizes of Rawlplugs most popular with these trades (Nos. 8, 10, 12, 14, 5/8 and 1/2), 150 Rawl-Drives in various sizes and types, 11 of the corresponding sizes of Rawldrills, 2 holders, 2 Rawl-Grips and Rawlplug and screw gage.

Packed in heavy gage steel mechanic's tool box. Complete Rawlplug Outfit.....each \$20.00

Rawlplug Household Outfits

A neat cardboard box containing No. 8 Rawlplugs, Rawl-Drives, nickel-plated screws, screw eyes, screw hooks, and special Rawldrill and toolholder.

Packed 12 in attractive counter display cartons. Household Outfits.....each \$5.00

Rawlplugs for Lag Screws

Lag screw sizes are adaptable for setting motors, generators, pumps, fans, etc., on concrete foundations.

Packed 25 to a box, 12 boxes to a standard package.

Diam. Lag Screw In.	PER 100 LENGTH RAWLPLUG, INCHES					Size Drill Req'd In.	O.D. Rawlplug In.
	1 1/2	2	2 1/2	3	3 1/2		
3/8	\$6.50	\$7.50	\$8.50	\$9.50		7/16	7/16
7/16	7.00	8.50	10.00	11.50		1/2	1/2
1/2		10.00	11.50	13.00		5/8	5/8
5/8			13.50	15.00	\$16.50	3/4	3/4

Rawl-Chucks

Made for all standard electric and pneumatic chipping hammers. Made of nickel steel accurately machined and heat treated to withstand severe service.

In ordering, specify make of hammer and size, and if pneumatic, whether round or hexagon barrel and whether for No. 14, No. 20, or No. 5/8 drill taper.

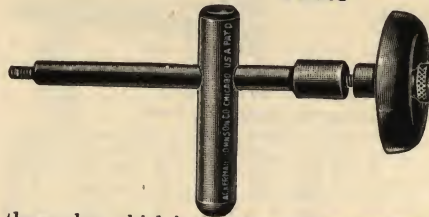
Electric Hammer Type, Complete with Drift Pin, each \$3.50

Pneumatic Hammer Type, Complete with Shank and Drift Pin.....each 5.00

Special Tool Steel Drift Pin for Chucks, Length, 5 Inches.....each .35

Extra Shank Pins for Pneumatic Type.....each .65

Ackerman-Johnson Hammerless Setting Tools



Designed to set anchors perfectly in tile or other thin materials in which the hole extends through or has weak bottom.

The stud is screwed into

the anchor which is then inserted in position; turning the wheel moves threaded stud rearwards, thus drawing the anchor-nut into its ductile sleeve, expanding the latter to any degree required for safe anchorage.

Price, for Setting Anchor No.	8x32	each	\$50
" " " " "	10x24	"	.50
" " " " "	12x24	"	1.00
" " " " "	1/4-in. x 20	"	1.00

Ackerman-Johnson Toggle Screw Anchor Setting Tools

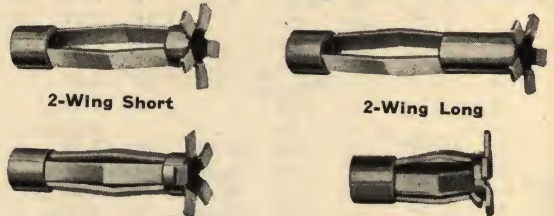


By means of this tool the toggle screw anchor is set into position. Any object may then be attached or detached by means of a machine screw of suitable size.

Access to only the front side of wall is sufficient.

For Anchor Screw Size	8x32	10x24	1/4"x20
Each	\$50	\$50	\$75
Extra Draw Spindle	.20	.20	.30

Ackerman-Johnson Toggle Screw Anchors



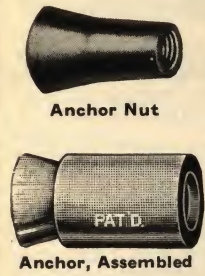
Adapted for use in any wall structure too thin or too soft for the proper use of an expansion bolt, or expansive screw anchor. The extra short type is designed for use in sheet metal and other thin panels.

The toggle-screw anchor is set in place independently and permanently before the fixtures are attached; remains rigidly in position while screws and fixtures are applied.

Size Screw	Per 100	Length	For Wall Thick. Inches	No. Wings	Holes to Drill Inches	Ship. Wt. Lbs. per 100
8x32	\$6.80	Ex. Short	0 to 3/16	4	3/8	1 1/2
8x32	7.00	Short	3/16 to 5/8	2	3/8	1 1/2
8x32	7.00	Short	3/16 to 5/8	4	3/8	2
8x32	7.40	Long	5/8 to 1 1/4	2	3/8	2 1/4
8x32	7.40	Long	5/8 to 1 1/4	4	3/8	2 1/2
10x24	6.80	Ex. Short	0 to 3/16	4	1/2	2 1/4
10x24	7.00	Short	3/16 to 5/8	2	1/2	2 1/2
10x24	7.00	Short	3/16 to 5/8	4	1/2	2 3/4
10x24	7.40	Long	5/8 to 1 1/4	2	1/2	3 1/4
10x24	7.40	Long	5/8 to 1 1/4	4	1/2	3 1/2
10x24	8.00	Ex. Long	1 1/4 to 1 3/4	2	1/2	3 3/4
1/4"x20	8.10	Ex. Short	0 to 3/16	4	1/2	2 1/2
1/4"x20	8.40	Short	3/16 to 5/8	2	1/2	3
1/4"x20	8.40	Short	3/16 to 5/8	4	1/2	3 1/4
1/4"x20	8.90	Long	5/8 to 1 1/4	2	1/2	4
1/4"x20	8.90	Long	5/8 to 1 1/4	4	1/2	4 1/4
1/4"x20	10.20	Ex. Long	1 1/4 to 1 3/4	2	1/2	5 3/4

Ackerman-Johnson Expansive Screw Anchors

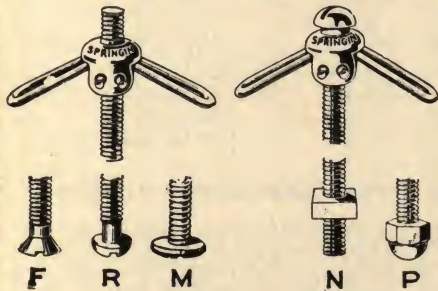
Sizes should be specified from first column. Size nos. correspond to the screw or bolt with which anchor is used.



*Holes should be deeper if masonry is of doubtful grade.

Size No. and Threads per In.	Per 100, less Screws	Min. Size To Be Drilled — Diam.* — Depth —	Std. Qty. per Box	Ship. Wt. Lb. per 100
6-32	\$3.80	1/4 3/8	50-100	7/8
8-32	4.50	5/16 1/2	50-100	1 1/4
10-24	4.95	3/8 5/8	50-100	2 1/2
12-24	6.50	7/16 3/4	50-100	3 3/4
1 1/4"-20	7.20	1/2 7/8	50-100	5 1/4
5/16"-18	9.75	5/8 1	50-100	9
3/8"-16	12.00	3/4 1 1/4	50-100	14 1/2
7/16"-14	15.00	1 1/2 1 3/4	50-100	21 1/2
1 1/2"-13	15.00	1 3/4 2	50-100	21 1/2
5/8"-11	25.00	1 1/2 2	50-100	46
3/4"-10	50.00	1 3/4 2 1/2	25-50	64
7/8"-9	120.00	1 3/4 3 1/2	25-50	188
1"-8	120.00	1 3/4 3 1/2	25-50	188

No. 5500 Star Spring Toggle Bolts



Rust Proofed
F — with flat head screw.
R — with round head screw.
M — mushroom head, furnished in 1/2-inch diameter only.
N — reverse R or F screw and add nut on any size.

P — plumbers' toggle; reverse R or F screw and add cap nut on any size. Capnuts extra.

Resilient wings are tempered spring steel with a cam action against saddle which throws them to open position.

Threads are National Standard, not stove bolt threads.

With M or F Head Screws

No.	Per 100	Diameter and Length of Screw Inches	Wire Gauge Threads per In.	Size Drill Required Inches	No. of Pieces in Box	No. in Shipping Carton	Ship. Wt. Lb. per 100
5506	\$6.60	1/8x2	6-32	3/8	50	500	1 1/2
5507	6.80	1/8x3	6-32	3/8	50	500	1 3/4
5508	7.00	1/8x4	6-32	3/8	50	500	2

With R, F, N or P Screws

5509	\$6.90	3/16x2	10-24	1/2	50	250	2 1/2
5510	7.00	3/16x3	10-24	1/2	50	250	3
5511	7.30	3/16x4	10-24	1/2	50	250	4
5512	8.40	3/16x5	10-24	1/2	50	250	5
5513	8.90	3/16x6	10-24	1/2	50	250	5 1/2
5515	7.70	1/4x3	1/4-20	5/8	50	250	6
5516	8.00	1/4x4	1/4-20	5/8	50	250	7
5517	9.40	1/4x5	1/4-20	5/8	50	250	8
5518	9.80	1/4x6	1/4-20	5/8	50	250	9 1/2
5520	12.00	5/16x3	5/16-18	7/8	25	125	10
5521	13.00	5/16x4	5/16-18	7/8	25	125	12
5522	14.00	5/16x5	5/16-18	7/8	25	125	13 1/2
5523	15.00	5/16x6	5/16-18	7/8	25	125	15
5525	14.00	3/8x3	3/8-16	7/8	25	125	13
5526	16.00	3/8x4	3/8-16	7/8	25	125	15 1/2
5527	18.00	3/8x5	3/8-16	7/8	25	125	18 1/2
5528	20.00	3/8x6	3/8-16	7/8	25	125	21

With R or N Screws

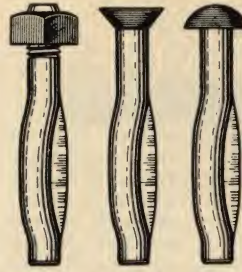
5536	\$25.00	1/2x4	1/2-13	1 1/8	25	125	27
5537	28.00	1/2x5	1/2-13	1 1/8	25	125	31 1/2
5538	30.00	1/2x6	1/2-13	1 1/8	25	125	36

Toggle Heads Only

5506-H	\$6.30	1/8	.....	3/8	..	..	1 1/2
5510-H	6.40	3/16	.....	1/2	..	..	1
5515-H	7.00	1/4	.....	5/8	..	..	2
5520-H	9.00	5/16	.....	7/8	..	..	3
5525-H	12.00	3/8	.....	7/8	..	..	3 1/2
5535-H	17.00	1/2	.....	1 1/8	..	..	4

Toggle heads only are furnished in bulk or to order.

Rawl-Drive Expansion Bolts



For use in any hard materials.

A cadmium-plated, self-contained combination expansion anchor in one piece. No separate screws or bolts are used. Made in 2 styles, headed (round or countersunk) and stud (with square nut).

Hole is drilled exact size of bolt. It is driven in this hole with a hammer. Stud type also drives in like a nail.

Standard package—4 boxes of the same size, length, and type.

Diam. Bolt & Drill In.	Lgth. Bolt In.	Headed Type per 100	Stud Type per 100	Use Rawl-Drill	No. in Box	Approx. Wt. Lbs. per 100
3/16	1	\$3.75	.....	No. 8	100	1 3/4
3/16	1 1/4	4.20	\$7.50	No. 8	100	2
3/16	1 1/2	4.70	.....	No. 8	100	2 1/4
3/16	2	5.70	.....	No. 8	100	2 1/2
3/16	2 1/2	6.70	.....	No. 8	100	2 3/4
1/4	1 1/4	5.10	.....	No. 12	100	3
1/4	1 1/2	5.60	8.55	No. 12	100	3 1/2
1/4	2	6.50	9.40	No. 12	100	4
1/4	2 1/2	7.50	.....	No. 12	100	5
1/4	3	8.50	.....	No. 12	100	5 1/2
1/4	3 1/2	9.50	.....	No. 12	100	6
5/16	1 1/2	*6.50	.....	No. 16	50	6
5/16	2	7.40	9.60	No. 16	50	7
5/16	2 1/2	8.40	10.50	No. 16	50	8
5/16	3	9.30	11.40	No. 16	50	9
3/8	2	9.30	.....	No. 20	25	10
3/8	2 1/2	10.20	11.60	No. 20	25	12
3/8	3	11.20	12.60	No. 20	25	13
3/8	3 1/2	12.10	13.60	No. 20	25	15
1/2	3	22.00	.....	1 1/2"	25	25
1/2	3 1/2	24.00	24.00	1 3/8"	25	28
1/2	4	26.00	26.00	1 1/2"	25	30

*Without countersunk head. †Countersunk head only.

Paine Spring Wing Toggle Bolts



Style Heads: A, Round; B, Square Nut; C, Flat

Works instantly in any position in any hollow material, including gypsum or machalite. Regularly furnished in heavily cadmium plated steel, rustproof, with full thread up to six inches. All bolts threaded to American National Standard Specifications. Standard bolt heads furnished from stock are round, flat, button, or mushroom and oval head in all diameters.

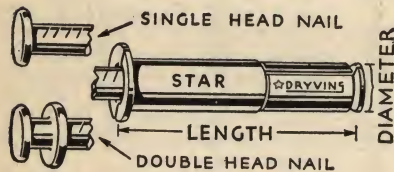
Bolt Diam., Threads per In. and Lgth. In.	Per 100	Drill Size Hole In.	No. in Std. Pkg.	Bolt Diam., Threads per In. and Lgth. In.	Per 100	Drill Size Hole In.	No. in Std. Pkg.
*No. 6-32x2	\$6.60	5/8	100	1/4-20x3	\$7.70	1 1/16	50
x3	6.80	3/4	100	x3 1/2	8.00	1 1/16	50
x4	7.00	3/4	100	x4	8.00	1 1/16	50
x5	8.10	3/4	100	x4 1/2	9.40	1 1/16	50
x6	8.70	3/4	100	x5	9.40	1 1/16	50
No. 8-32x3	7.00	7/16	100	x6	9.80	1 1/16	50
x3 1/2	7.30	7/16	100	5/16-18x3	12.00	7/8	50
x4	7.30	7/16	100	x4	13.00	7/8	50
x5	8.40	7/16	100	x5	14.00	7/8	50
x6	8.90	7/16	100	x6	15.00	7/8	50
†No. 10-24x2	6.90	1/2	50	3/8-16x3	14.00	1	50
x3	7.00	1/2	50	x4	16.00	1	50
x3 1/2	7.30	1/2	50	x5	18.00	1	50
x4	7.30	1/2	50	x6	20.00	1	50
x5	8.40	1/2	50	1/2-13x4	25.00	1 1/4	25
x6	8.90	1/2	50	x5	28.00	1 1/4	25
				x6	30.00	1 1/4	25

*Also described as 1/8-inch. †Also described as 3/8-inch. For brass bolts and rustproof steel toggle heads, multiply steel prices by two. For brass bolts and toggle heads multiply steel prices by 2.8.

Bolt lengths not listed take next higher list.

No. 3900 Star Dryvin Hammer-Drive Anchors

Rust Proofed



Dryvins furnished regularly with single-head nails. Dryvins with double-head nails can be furnished in practically all sizes at no extra charge.

Dryvins are designated by the diameter and length of the shield. This is marked on each size. The diameter is the actual diameter of the shield. This also is the nominal diameter of both the mounting hole and proper size drill required. The length of the Dryvin is measured from the top flange to the bottom flange of the shield. This is not the nail length.

Listed by Underwriters Laboratories.

No.	Per 100 Comp. with Nails	Size Diam. Lgth. of Shield Inches	O.D. and Drill Required Inches	Work. Load Lbs.	No. in Std. Pkg.	No. in Std. Ship. Ctn.	Ship. Wt., Lbs. per 100
3910	\$8.00	3/16x 7/8	3/16	60	100	500	1.2
3911	9.00	3/16x1 1/4	3/16	100	100	500	1.6
3915	10.00	1/4x1	1/4	200	100	500	2
3916	11.00	1/4x1 1/4	1/4	250	100	500	2 3/4
3917	12.00	1/4x1 1/2	1/4	300	50	250	3
3920	14.00	5/16x1 1/4	5/16	250	50	250	4
3921	16.00	5/16x1 3/4	5/16	300	25	250	5 1/2
3923	18.00	5/16x2 1/4	5/16	300	25	250	7
3924	20.00	5/16x2 3/4	5/16	300	25	250	8
3926	18.00	3/8x1 1/2	3/8	400	100	500	7
3927	20.00	3/8x2	3/8	450	25	250	9
3929	25.00	3/8x3 1/4	3/8	500	50	250	12 1/2
3935	25.00	1/2x1	1/2	200	100	500	9
3937	30.00	1/2x2 1/4	1/2	500	50	250	16
3938	32.00	1/2x2 3/4	1/2	550	50	250	19
3939	35.00	1/2x3 1/2	1/2	600	50	250	23

Barrett Shields for Lag Screws



Expansion is produced by the stock of the screw bearing on the smooth tops of high and heavy threads.

Diam. Lag Screw In.	Length, Inches Long Pattern	Short Pattern	O. D. Shield and Size of Drill Inches	Price per 100
1/4	1 1/4	...	7/16	\$15.00
5/16	1 3/4	...	1/2	18.00
3/8	2 1/2	1 3/4	5/8	25.00
7/16	2 3/4	...	1 1/16	32.00
1/2	3	2	3/4	38.00
5/8	3 1/4	2	7/8	45.00
3/4	3 1/2	2 1/8	1	65.00

Biflex Hangers for Machine Bolts



Made of the highest grade malleable iron. Every part of it is built to give great holding power, ease of operation and adjustment.

All bolt or screw trouble is eliminated. It comes completely assembled, ready for action.

This hanger is made in two sizes, 3/8 and 1/2 inch.

The 3/8-inch requires a hole only 1 5/8 inches deep, 1/8 inch in diameter.

The 1/2-inch requires a hole only 1 7/8 inches deep and 7/8 inch in diameter.

Price, 3/8-inch.....per 100 \$25.00
" 1/2 ".....per 100 38.00

Barrett Anchors for Wood Screws



Die cast from special ductile metal of unusual hardness. Holds more than the screw. The oval form wedges the anchor tightly in the hole and prevents it from rotating with the screw.

Diam. Screw Inches	Per 100	Length Anchor Inches	No. Screw	O. D., Anchor and Drill Required Inches
1/8	\$4.40	1/2	5-6-7-8	1/4
1/8	4.40	5/8	5-6-7-8	1/4
1/8	4.40	3/4	5-6-7-8	1/4
3/16	5.00	1/2	9-10-11	5/16
3/16	5.00	3/4	9-10-11	5/16
3/16	5.00	1	9-10-11	5/16
*3/16	6.25	1	9-10-11	3/8
3/16	6.25	1 1/2	9-10-11	5/16
1/4	5.60	3/4	12-13-14	5/16
1/4	5.60	1	12-13-14	3/8
1/4	8.00	1 1/2	12-13-14	3/8
5/16	6.25	1	15-16-17-18	3/8
5/16	10.00	1 1/2	15-16-17-18	7/16
3/8	15.00	1 1/2	20-22-24	9/16
3/8	20.00	2	20-22-24	9/16
1/2	25.00	2	1/2-In. Lag Screw	1 1/16

No. 400 Star Scruin Lead Screw Anchors



Designed for high holding power and a larger range of screw sizes than other designs. The ribbed sides and bell shaped top fill irregular bore at top of the masonry hole. This locks the anchor in, preventing it from turning

when tightening up the screw. Bell shaped throat also serves to center the screw when inserted.

Screw Size and Length of Anchor Inches	Per 100 without Screws	Fractional Screw Size, In.	O.D. and Drill Required Inches	Std. Pkg.	Shipping Carton per 100	Ship. Wt. Lb. per 100
6- 8 x 3/4	\$5.00	1/8-3/16	1/4	100	1000	1
6- 8 x 1 1/2	5.60	1/8-3/16	1/4	100	500	2
10-12-14x1	5.60	3/16-1/4	3/16	100	500	2
10-12-14x1 1/2	8.00	3/16-1/4	5/16	100	500	3
16-18x1	6.25	5/16-1/4	3/8	100	500	3
16-18x1 1/2	9.00	5/16	3/8	25	250	4
20-22-24x1 3/4	10.00	3/8	7/16	25	250	6

Biflex Shields for Machine Bolts



Made of malleable iron. The tube on nut fits in shield, holding nut in alignment to receive bolt. Also guides bolt compelling it to engage threads in the nuts.

Lugs meet back of triangular projection, locking nut in shield. Fins prevent shield from turning in wall.

Triangular projections prevent nut from turning in shield. Expansion plane in shield tapers from head end of nut down to bolt diameter, producing greatest possible expansion.

Bolt Size In.	Threads per Inch	Drill Size In.	Length Over All Inches	Recommended Drilling Depth, In.	Per 100
1/4	20	1/2	1 3/8	1 1/4	\$15.00
5/16	18	9/16	1 1/2	1 3/8	18.00
*3/8	16	1 1/16	1 7/8	1 5/8	25.00
*3/8	16	1 1/16	2 1/4	2 1/8	25.00
*1/2	13	7/8	2 1/8	1 7/8	38.00
*1/2	13	7/8	2 3/4	2 1/2	38.00
5/8	11	1	2 3/4	2 1/2	45.00
3/4	10	1 1/8	3	2 3/4	65.00

*Short.

†Long.

Super Carbide Tipped Flat Drills**For Non-Metallic Materials**

For drilling brick, slate, asphalt, concrete, marble, plaster, porcelain, stone, tile, wall board, and other non-metallic substance.

Can be used in portable electric drills or hand braces.

For full efficiency and to eliminate practically all breakage, drills must be kept reasonably sharp. For sharpening use an 80 to 100 grit silicon carbide wheel, and grind dry with moderate pressure. Use no water, and do not dip hot tool in water. If not too dull, it will not be necessary to grind away more than a very few thousandths of Carbide metal, insuring many re-grinds before the drill is worn out.

No.	Each	Shank			No.	Each	Shank		
		Size In.	Length In.	Diam. In.			Size In.	Length In.	Diam. In.
FD-1	\$3.00	1/8	2 1/2	3/32	FD-7	\$7.00	3/4	6	1 1/2
FD-1-A	3.00	3/16	3	5/32	FD-7-A	7.75	13/16	6	1 1/2
FD-2	3.00	1/4	4	1/32	FD-8	8.50	7/8	6	1 1/2
FD-3	3.25	3/16	4	5/32	FD-8-A	10.00	15/16	6	1 1/2
FD-4	3.60	3/8	4	11/32	FD-9	12.00	1	6	1 1/2
FD-4-A	4.00	1/2	6	13/32	FD-9-A	14.00	1 1/16	10	1 1/2
FD-5	4.50	1/2	6	1/16	FD-9-B	14.50	1 1/8	10	3/4
FD-5-A	4.70	3/16	6	1/2	FD-10	17.50	1 1/4	10	3/4
FD-6	5.50	5/8	6	1/2	FD-11	21.50	1 1/2	10	3/4
FD-6-A	6.25	11/16	6	1/2	FD-12	27.50	2	10	3/4

Add 50% to list for all special lengths. Special quotation on large quantities.

Special shank dimensions are extra, except where standard drill can be altered. Taper shanks are extra.

Prices on special drills furnished on request.

Machined Type 3-Point Masonry Drills**Symbol M/T—For Hand Drilling**

Machined to size from solid bars of high grade tool steel. Made in sizes for all Rawlplugs and Rawl-drives.

Used in a tool holder when drilling by hand and in Rawl-chuck when drilling by power hammer. Made to exact diameters. Can be resharpened on any grinding wheel.

TOOLHOLDER					TOOLHOLDER				
Size No.	Per Doz.	Diam. In.	Use No.	Per Doz.	Size No.	Per Doz.	Diam. In.	Use No.	Per Doz.
6	\$7.50	5/32	14	\$12.00	14	\$8.25	9/32	14	\$12.00
8	7.50	11/64	14	12.00	16	9.00	5/16	20	15.00
10	7.50	3/16	14	12.00	20	10.80	3/8	20	15.00
12	7.50	1/4	14	12.00	7/16	13.80	1/2	20	15.00
Drill Ejectors.....					per dozen \$1.50				

No. 7000 Star Double Expansion Shields**Malleable Iron—For Use with Machine Bolts****Rust-Proofed**

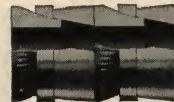
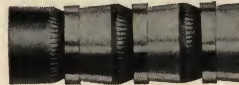
Locking lugs on nut and collar permit easy expansion. Over-lap spring holds shield together firmly.

Diam. Bolt In.		Per 100 without Bolts		Work. Load Lb.		Length Shield Inches		O.D. and Drill Req. Inches		Std. Pkg.		Shipping Wt. Lb. per 100	
1/4		\$15.00		200		15 5/8		1 1/2		50		4 1/2	
5/16		18.00		300		1 7/8		5/8		50		7 1/2	
3/8		25.00		450		2 1/8		3/4		50		13 1/2	
7/16		32.00		1000		2 3/8		7/8		25		18	
1/2		38.00		1000		2 3/8		1		25		18	
5/8		45.00		1500		2 7/8		1 1/4		10		57	
3/4		65.00		2000		4 1/2		1 1/2		10		103	
7/8		95.00		2000		4 7/8		1 3/4		5		140	

4-Point Star Drills**For Brick, Stone or Concrete**

The 4-Point Star Drill is made of a high carbon tool steel.

Cutting Diameter of Drill Inches	Ship. Wt., 12-In. Length per Doz. Lbs.	PRICE, PER DOZEN			
		—LENGTH, INCHES—			
		8	12	18	24
1/4	1 1/4	\$8.25	\$8.50	\$11.00	\$13.50
5/16	2	8.25	8.50	11.00	13.50
3/8	3 1/4	8.25	8.50	11.00	13.50
7/16	4 3/4	8.70	9.00	11.50	14.00
1/2	4 3/4	9.65	10.00	12.50	15.00
9/16	6 1/2	11.65	12.00	15.00	17.50
5/8	8 1/4	11.65	12.00	15.00	17.50
11/16	8 1/4	13.70	14.00	17.50	20.00
3/4	10 1/4	13.70	14.00	17.50	20.00
13/16	10 1/4	15.30	16.00	20.00	22.50
7/8	13 1/4	15.30	16.00	20.00	22.50
15/16	15 1/2	.....	18.00	22.50	25.00
1	15 1/2	.....	18.00	22.50	25.00
1 1/16	19	.....	24.00	28.00	32.00
1 1/8	19	.....	24.00	28.00	32.00
1 1/4	26	.....	30.00	35.00	40.00
1 3/8	33 3/4	.....	40.00	45.00	50.00
1 1/2	41	.....	50.00	56.00	62.00
1 5/8	41	.....	60.00	66.00	72.00
1 3/4	41	.....	75.00	81.00	87.00
1 7/8	41 1/2	.....	90.00	97.00	104.00
2	41 1/2	.....	105.00	112.00	120.00

National Ring Wedge Cinch Anchors**2-Unit Plain Anchor****2-Unit Threaded Anchor****3-Unit Threaded Anchor**

Each unit consists of an iron cone, ring, and alloy integral. One unit plain and one unit threaded, or both units plain.

Diam. Bolt Inches	Diam. Hole and Drill Required Inches	2-Unit Anchor		3-Unit Anchor	
		Without Bolts per 100 Sets	Minimum Depth Hole Inches	Without Bolts per 100 Sets	Minimum Depth Hole Inches
3/16	1/2	\$7.00	7/8	\$10.50	1 1/8
1/4	5/8	8.00	1 1/16	12.00	1 3/8
5/16	5/8	9.00	1 1/16	13.50	1 3/8
3/8	13/16	11.00	1 1/2	16.50	2 1/4
1/2	1	18.00	1 3/4	27.00	2 3/8
5/8	1 1/8	24.00	1 7/8	36.00	2 7/8
3/4	1 3/8	35.00	2 1/2	52.50	3 3/4
7/8	1 1/2	44.00	2 3/4	66.00	4
1	1 5/8	63.00	3 1/4	94.50	4 7/8
1 1/8	2	140.00	4 1/2	210.00	6
1 1/4	2 1/8	150.00	4 3/4	225.00	6 1/4
1 1/2	2 3/8	220.00	5 1/4	330.00	7 1/4
1 3/4	3 1/2	320.00	8	480.00	12

Cinch Brand Calking Tools

Used for expanding all Cinch units.

Diam. Bolt	.....in.	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1
Each.....		\$.40	.50	.50	.60	.60	.85	1.50	1.80	2.10	3.40

Standard Steel Specialty Woodruff Type
Keys



Tolerance on width is from basic size given to plus .001 inch.

Keyways should be cut so that the keys project above the shaft one-half their thickness.

When ordering, specify one of the three numbers shown.

A.S.M.E. Std. No.	S.A.E. Std. No.	S.S.S. Std. No.	Width In.	Diam. In.	Carbon S.A.E. 1035 per 100	Nickel S.A.E. 2330 per 100
...	...	211	1/16	3/8	.70	\$.75
...	...	212	3/32	3/8	.75	.85
...	...	213	1/8	3/8	.80	.90
204	10	1	1/16	1/2	.17	.21
304	20	2	3/32	1/2	.20	.26
404	30	3	1/8	1/2	.23	.33
305	40	4	3/32	5/8	.26	.34
405	50	5	1/8	5/8	.33	.44
505	60	6	5/32	5/8	.42	.54
...	...	61	3/16	5/8	.50	.65
406	70	7	1/8	3/4	.40	.54
506	80	8	5/32	3/4	.49	.64
606	90	9	3/16	3/4	.56	.78
...	...	91	1/4	3/4	.75	1.04
507	100	10	5/32	7/8	.70	.96
607	110	11	3/16	7/8	.80	1.12
...	...	12	7/32	7/8	.90	1.30
807	115	A	1/4	7/8	1.02	1.45
608	130	13	3/16	1	1.00	1.45
...	...	14	7/32	1	1.18	1.70
808	150	15	1/4	1	1.30	1.90
1008	155	B	5/16	1	1.55	2.30
609	160	16	3/16	1 1/8	1.25	1.80
...	...	17	7/32	1 1/8	1.45	2.05
809	180	18	1/4	1 1/8	1.70	2.35
1009	185	C	5/16	1 1/8	2.05	2.80
...	...	19	3/16	1 1/4	1.60	2.25
...	...	20	7/32	1 1/4	1.85	2.65
810	210	21	1/4	1 1/4	2.05	2.90
1010	215	D	5/16	1 1/4	2.45	3.55
1210	225	E	3/8	1 1/4	2.85	4.20
811	...	22	1/4	1 3/8	2.45	3.50
1011	...	23	5/16	1 3/8	2.85	4.15
1211	...	F	3/8	1 3/8	3.20	4.75
812	...	24	1/4	1 1/2	2.80	4.00
1012	...	25	5/16	1 1/2	3.45	4.95
1212	...	G	3/8	1 1/2	4.00	5.80
...	...	126	3/16	2 1/8	1.60	1.95
...	...	127	1/4	2 1/8	2.00	2.45
...	...	128	5/16	2 1/8	2.35	2.90
...	...	129	3/8	2 1/8	2.75	3.40
...	...	26	3/16	2 1/8	2.25	3.15
...	...	27	1/4	2 1/8	2.95	4.10
...	...	28	5/16	2 1/8	3.65	5.10
...	...	29	3/8	2 1/8	4.20	5.95
...	...	Rx	1/4	2 3/4	4.20	5.75
...	...	Sx	5/16	2 3/4	4.80	6.70
...	...	Tx	3/8	2 3/4	5.40	7.70
...	...	Ux	7/16	2 3/4	6.00	8.70
...	...	Vx	1/2	2 3/4	6.60	9.65
...	...	R	1/4	2 3/4	5.15	7.25
...	...	S	5/16	2 3/4	6.05	8.70
...	...	T	3/8	2 3/4	6.95	10.10
...	...	U	7/16	2 3/4	7.75	11.45
...	...	V	1/2	2 3/4	8.40	12.65
...	...	30	3/8	3 1/2	10.15	*
...	...	31	7/16	3 1/2	11.40	*
...	...	32	1/2	3 1/2	12.35	*
...	...	33	9/16	3 1/2	13.70	*
...	...	34	5/8	3 1/2	14.70	*
...	...	35	11/16	3 1/2	16.20	*
...	...	36	3/4	3 1/2	17.40	*

*Prices upon application.

Machine Keys with Heads
Finished



Keys with standard taper of 1/8 inch per foot furnished unless otherwise

specified. Flat or special keys with any taper desired can be furnished.

Length Under Head, In.	PRICE, PER 100							
	DIMENSIONS, IMMEDIATELY UNDER HEAD, INCHES							
	1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8
1	\$9.00	\$9.25	\$9.50	\$10.00	\$11.00	\$12.50	\$14.50	\$17.00
1 1/2	9.60	9.90	10.20	10.75	11.90	13.55	15.80	18.60
2	10.20	10.55	10.90	11.50	12.80	14.60	17.10	20.20
2 1/2	10.80	11.20	11.60	12.25	13.70	15.65	18.40	21.80
3	11.40	11.85	12.30	13.00	14.60	16.70	19.70	23.40
3 1/2	12.00	12.50	13.00	13.75	15.50	17.75	21.00	25.00
4	12.60	13.15	13.70	14.50	16.40	18.80	22.30	26.60
4 1/2	13.20	13.80	14.40	15.25	17.30	19.85	23.60	28.20
5	13.80	14.45	15.10	16.00	18.20	20.90	24.90	29.80
5 1/2	...	...	...	15.80	16.75	19.10	21.95	26.20
6	...	...	16.50	17.50	20.00	23.00	27.50	33.00
6 1/2	...	...	...	18.25	20.90	24.05	28.80	34.60
7	...	...	...	19.00	21.80	25.10	30.10	36.20
7 1/2	...	...	...	...	22.70	26.15	31.40	37.80
8	...	...	...	...	23.60	27.20	32.70	39.40
8 1/2	...	...	...	...	24.50	28.25	34.00	41.00
9	...	...	...	...	...	29.30	35.30	42.60
9 1/2	...	...	...	...	...	30.25	36.60	44.20
10	...	...	...	...	...	31.40	37.90	45.80

Length Under Head, In.	PRICE, PER 100							
	DIMENSIONS, IMMEDIATELY UNDER HEAD, INCHES							
	5/8	1 1/16	3/4	13/16	7/8	15/16	1	1 1/8
1 1/2	\$21.95	\$25.90	\$30.35	\$35.25	...	...	...	...
2	23.90	28.30	33.20	38.65	\$44.55	\$50.90	...	...
2 1/2	25.85	30.70	36.05	42.05	48.55	55.55	\$63.20	\$80.05
3	27.80	33.10	38.80	45.45	52.55	60.20	68.60	87.05
3 1/2	29.75	35.50	41.75	48.85	56.55	64.85	74.00	94.05
4	31.70	37.90	44.60	52.25	60.55	69.50	79.40	101.05
4 1/2	33.65	40.30	47.45	55.65	64.55	74.15	84.80	108.05
5	35.60	42.70	50.30	59.05	68.55	78.80	90.20	115.05
5 1/2	37.55	45.10	53.15	62.45	72.55	83.45	95.60	122.05
6	39.50	47.50	56.00	65.85	76.55	88.10	101.00	129.05
6 1/2	41.45	49.90	58.85	69.25	80.55	92.75	106.40	136.05
7	43.40	52.30	61.70	72.65	84.55	97.40	111.80	143.05
7 1/2	45.35	54.70	64.55	76.05	88.55	102.05	117.20	150.05
8	47.30	57.10	67.40	79.45	92.55	106.70	122.60	157.05
8 1/2	49.25	59.50	70.25	82.85	96.55	111.35	128.00	164.05
9	51.20	61.90	73.10	86.25	100.55	116.00	133.40	171.05
9 1/2	53.15	64.30	75.95	89.65	104.55	120.65	138.80	178.05
10	55.10	66.70	78.80	93.05	108.55	125.30	144.20	185.05

Wood Dowels



Diam. In.	No. Pieces per Bundle	36-Inch Length per 1000 Pieces	48-Inch Length per 1000 Pieces	Diam. In.	No. Pieces per Bundle	36-Inch Length per 1000 Pieces	48-Inch Length per 1000 Pieces
3/16	1000	\$14.00	\$18.75	9/16	100	\$42.00	\$57.00
1/4	500	17.50	23.40	5/8	100	48.00	65.30
5/16	500	22.54	30.00	3/4	100	63.50	84.70
3/8	200	29.00	38.65	7/8	50	79.00	105.50
7/16	200	35.00	46.60	1	50	93.00	125.00
1/2	200	36.70	49.00	...	...	...	...

All diameters from 1/8 to 1 1/16-inch and all lengths up to 18 feet are available.

We are in position to supply many items not shown in this catalogue and shall be pleased to receive your inquiries.

Standard Steel Taper Pins



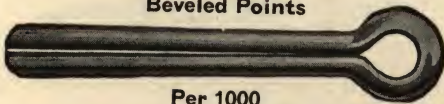
Taper $\frac{1}{4}$ inch to the foot.

Per 100						
No.	1	2	3	4	5	
Diam. Large End...in.	.156	.172	.193	.219	.250	.289
App. Frac. Sizes...in.	$\frac{5}{32}$	$\frac{11}{64}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{4}$
$\frac{3}{4}$	\$1.80	\$2.00	\$2.20	\$2.40	\$2.70	\$3.00
1	2.10	2.30	2.50	2.70	3.00	3.30
$1\frac{1}{4}$	2.40	2.60	2.80	3.00	3.30	3.60
$1\frac{1}{2}$	2.70	2.90	3.10	3.30	3.60	3.90
$1\frac{3}{4}$	3.00	3.20	3.40	3.60	3.90	4.20
2	3.30	3.50	3.70	3.90	4.20	4.50
$2\frac{1}{4}$	3.70	3.90	4.10	4.30	4.60	4.90
$2\frac{1}{2}$	4.10	4.30	4.50	4.70	5.00	5.30
$2\frac{3}{4}$		4.70	4.90	5.10	5.40	5.70
3		5.10	5.30	5.50	5.80	6.10
$3\frac{1}{4}$				5.90	6.20	6.50
$3\frac{1}{2}$				6.30	6.60	6.90
$3\frac{3}{4}$					7.00	7.30
4					7.40	7.70

Per 1000						
No.	6	7	8	9	10	
Diam. Large End...in.	.341	.409	.492	.591	.706	
App. Frac. Sizes...in.	$\frac{11}{32}$	$\frac{13}{32}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	
$\frac{3}{4}$	\$3.50					
1	4.00	\$6.50	\$7.60	\$10.80	\$14.40	
$1\frac{1}{4}$	4.50	7.00	8.30	11.70	15.30	
$1\frac{1}{2}$	5.00	7.50	9.00	12.60	16.20	
$1\frac{3}{4}$	5.50	8.00	9.70	13.50	17.10	
2	6.00	8.50	10.40	14.40	18.20	
$2\frac{1}{4}$	6.50	9.40	11.40	15.60	19.70	
$2\frac{1}{2}$	7.00	10.30	12.40	16.80	21.20	
$2\frac{3}{4}$	7.50	11.20	13.40	18.00	22.70	
3	8.00	12.10	14.40	19.20	24.20	
$3\frac{1}{4}$	8.50	13.00	15.40	20.40	25.90	
$3\frac{1}{2}$	9.00	13.90	16.40	21.60	27.60	
$3\frac{3}{4}$	9.50	14.80	17.40	22.80	29.30	
4	10.00	15.70	18.40	24.00	31.00	
$4\frac{1}{4}$	10.60	16.70	19.60	25.40	33.00	
$4\frac{1}{2}$	11.20	17.70	20.80	26.80	35.00	
$4\frac{3}{4}$	11.80	18.70	22.00	28.20	37.00	
5	12.40	19.70	23.20	29.60	39.00	
$5\frac{1}{2}$	13.60	21.70	25.60	32.40	43.00	
6	14.80	23.70	28.00	35.20	47.00	

Steel Spring Cotters

Beveled Points



Per 1000

Lgth. In.	DIAMETER, INCHES							
	$\frac{1}{16}$	$\frac{3}{32}$	$\frac{1}{8}$	$\frac{5}{32}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$
$\frac{1}{2}$	\$3.35	\$4.00	\$5.55					
$\frac{3}{4}$	.45	.53	.75	\$1.20	\$1.70			
1	.55	.65	.90	1.45	2.05	\$3.40	\$5.30	
$1\frac{1}{4}$	.65	.78	1.10	1.70	2.40	4.00	6.20	
$1\frac{1}{2}$	.75	.90	1.25	1.95	2.75	4.60	7.10	\$10.50
$1\frac{3}{4}$	.95	1.03	1.45	2.20	3.10	5.20	8.05	
2	1.05	1.15	1.60	2.45	3.45	5.80	9.00	13.00
$2\frac{1}{4}$				2.70	3.80	6.40	9.90	
$2\frac{1}{2}$		1.55	2.00	2.95	4.15	7.00	10.80	15.50
3			2.50	3.45	5.00	7.80	11.70	18.00
$3\frac{1}{2}$					5.75	8.60	13.90	20.50
4					6.50	9.40	16.10	23.00
5							18.30	27.00
6								31.00

Number of Cotters in a Box

$\frac{1}{16}$ -Inch Diameter, All Lengths.....	1000
$\frac{3}{32}$ and $\frac{1}{8}$ -Inch Diam., Lengths to $1\frac{1}{2}$ Inches Incl. . .	1000
$\frac{3}{32}$ and $\frac{1}{8}$ -Inch Diam., Lengths Longer than $1\frac{1}{2}$ In. .	500
$\frac{5}{32}$ -Inch Diameter, Lengths to 1 Inch Inclusive.....	1000
$\frac{5}{32}$ -Inch Diameter, $1\frac{1}{4}$ to $1\frac{1}{2}$ -Inch Lengths Incl. . .	500
$\frac{5}{32}$ -Inch Diameter, Lengths Longer than $1\frac{1}{2}$ Inches..	250
$\frac{3}{16}$ -Inch Diameter, Lengths to $\frac{1}{8}$ Inch Inclusive.....	1000
$\frac{3}{16}$ -Inch Diameter, 1 to $1\frac{1}{2}$ -Inch Lengths Inclusive..	500
$\frac{3}{16}$ -Inch Diameter, Lengths Longer than $1\frac{1}{2}$ Inches..	250
$\frac{1}{4}$ -Inch Diameter, Lengths to $3\frac{1}{2}$ Inches Inclusive..	250
$\frac{1}{4}$ -Inch Diameter, Lengths Longer than $3\frac{1}{2}$ Inches...	125
$\frac{5}{16}$ -Inch Diameter, 1 to $1\frac{1}{4}$ -Inch Lengths Inclusive..	250
$\frac{5}{16}$ -Inch Diameter, $1\frac{1}{2}$ to 3-Inch Lengths Inclusive..	125
$\frac{5}{16}$ -Inch Diameter, Lengths Longer than 3 Inches...	Bulk
$\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$ and $\frac{3}{4}$ -Inch Diam., All Lengths.....	Bulk

Prices are for standard packages; extra for other than standard packing. Brass cotter list, six times steel list.

No. 991 Wrought Steel Burrs



Illustration shows the actual size of $\frac{1}{2}$ inch.

Packed 1 pound in a box and in 100 pound kegs.

Rivet Size	O. S. Diam. In.	Size of Hole Thick. Gauge	Approx. No. to the Lb.	Rivet Size	O. S. Diam. In.	Size of Hole Thick. Gauge	Approx. No. to the Lb.
$\frac{3}{8}$	$\frac{3}{4}$	.390	16	$\frac{3}{16}$	$\frac{1}{2}$	.197	18
$\frac{11}{32}$	$\frac{3}{4}$	.360	16	$\frac{1}{2}$	$\frac{1}{2}$	.188	18
$\frac{5}{16}$	$\frac{5}{8}$	.325	17	$\frac{1}{2}$	$\frac{1}{2}$	.172	18
1	$\frac{5}{8}$	.312	18	$\frac{1}{2}$	$\frac{1}{2}$	.157	18
2	$\frac{5}{8}$	.295	18	$\frac{1}{2}$	$\frac{1}{2}$	.143	18
3	$\frac{5}{8}$	.272	18	$\frac{1}{2}$	$\frac{1}{2}$	.127	18
$\frac{1}{4}$	$\frac{9}{16}$	.257	18	$\frac{1}{2}$	$\frac{1}{2}$	.115	18
4	$\frac{9}{16}$	.250	18	$\frac{1}{2}$	$\frac{1}{2}$	.101	19
5	$\frac{1}{2}$	.227	18	$\frac{1}{2}$	$\frac{1}{2}$	.085	19
6	$\frac{1}{2}$	.215	18				

Prices upon application.

No. 14 Brass Split Brake Lining Rivets



Illustrations are actual size.

Diameter of body, $\frac{3}{64}$ inch; head, $\frac{5}{16}$ inch.

No.	14-5	14-6	14-7	14-8	14-10	14-12
Length.....inches	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$
Per Box of 100....	\$3.35	\$3.38	\$4.40	\$4.45	\$5.51	\$5.59
Per Box of 1000....	3.00	3.30	3.60	4.00	4.60	5.20

Steel Balls



Made from the highest quality chrome alloy steel. Grade No. 1 balls have a special surface finish, which gives smoothness in operation. Other grades are supplied with a smooth, highly polished surface.

Steel balls in all grades have a uniform hardness from surface to center. Rockwell 64 to 66 C Scale.

Accuracy

Sizes $\frac{1}{16}$ to $1\frac{1}{2}$ Inches





Description	Sphericity	Per Box	Per Ship.
Grade No. 1.....	.000025"	±.000025"	±.0001"
Grade No. 2.....	.00005"	±.00005"	±.0002"
Grade No. 3.....	.0002"	±.0002"	±.0005"
Hardware Grade.....	.001"	±.002"	±.004"

Sizes 2 to $2\frac{1}{2}$ Inches

Description	Sphericity	Per Box	Per Ship.
Grade No. 1.....	.00005"	±.00005"	±.0002"
Grade No. 2.....	.0002"	±.0002"	±.0005"
Grade No. 3.....	.0005"	±.0005"	±.001"
Hardware Grade.....	.001"	±.002"	±.004"

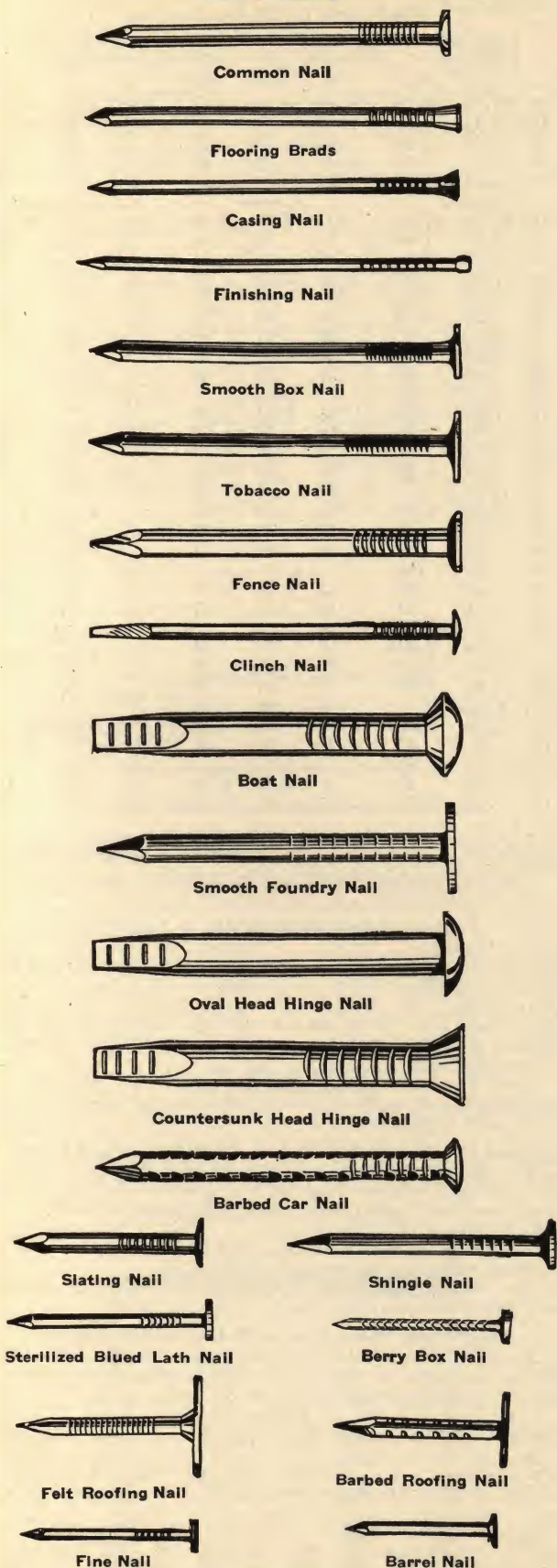
Size, In.	Per 1000	Size, In.	Per 1000	Size, In.	Per 1000
$\frac{1}{8}$	\$4.00	$\frac{21}{32}$	\$81.00	$\frac{13}{8}$	\$860.00
$\frac{5}{32}$	4.50	$\frac{11}{16}$	95.00	$\frac{17}{16}$	980.00
$\frac{3}{16}$	5.00	$\frac{23}{32}$	120.00	$\frac{1}{2}$	1100.00
$\frac{7}{32}$	6.00	$\frac{3}{4}$	135.00	$\frac{19}{16}$	1250.00
$\frac{1}{4}$	8.00	$\frac{25}{32}$	148.00	$\frac{15}{8}$	1400.00
$\frac{9}{32}$	10.00	$\frac{13}{16}$	160.00	$\frac{11}{4}$	1550.00
$\frac{5}{16}$	12.00	$\frac{27}{32}$	176.00	$\frac{13}{4}$	1700.00
$\frac{11}{32}$	15.00	$\frac{7}{8}$	192.00	$\frac{113}{16}$	1850.00
$\frac{3}{8}$	19.00	$\frac{29}{32}$	205.00	$\frac{17}{8}$	2050.00
$\frac{13}{32}$	23.00	$\frac{15}{16}$	220.00	$\frac{115}{16}$	2250.00
$\frac{7}{16}$	28.00	$\frac{31}{32}$	240.00	2	2450.00
$\frac{15}{32}$	34.00	1	270.00	$\frac{23}{8}$	2900.00
$\frac{1}{2}$	40.00	$\frac{11}{16}$	355.00	$\frac{21}{4}$	3400.00
$\frac{17}{32}$	47.00	$\frac{11}{8}$	440.00	$\frac{23}{8}$	3900.00
$\frac{9}{16}$	55.00	$\frac{13}{16}$	530.00	$\frac{21}{2}$	4500.00
$\frac{19}{32}$	63.00	$\frac{11}{4}$	630.00		
$\frac{5}{8}$	72.00	$\frac{15}{16}$	740.00		

Black Tinnners' and Coopers' Rivets

															
				BULK, 200-Lb.								BULK, 200-Lb.			
				KEGS PER Lb.								KEGS PER Lb.			
				Flat		Flat						Flat		Flat	
				Head		Ctrsk.						Head		Ctrsk.	
				Not		Head						Not		Head	
				Pointed		Pointed						Pointed		Pointed	
Size Weight Per 1000				Per 1000 in Paper Pkg.				Size Weight Per 1000				Per 1000 in Paper Pkg.			
6	Oz.	\$.28	\$.62	\$.66				3½	Lb.	\$1.09	\$.23	\$.27			
8	Oz.	.32	.52	.56				4	Lb.	1.20	.22	.26			
10	Oz.	.36	.49	.53				5	Lb.	1.30	.21	.25			
12	Oz.	.41	.46	.50				6	Lb.	1.50	.20	.24			
14	Oz.	.45	.43	.47				7	Lb.	1.75	.20	.24			
1	Lb.	.48	.40	.44				8	Lb.	2.00	.20	.24			
1¼	Lb.	.54	.35	.39				9	Lb.	2.20	.19	.23			
1½	Lb.	.62	.33	.37				10	Lb.	2.40	.19	.23			
1¾	Lb.	.67	.30	.34				12	Lb.	2.64	.17	.21			
2	Lb.	.72	.28	.32				14	Lb.	3.08	.17	.21			
2½	Lb.	.83	.25	.29				16	Lb.	3.52	.17	.21			
3	Lb.	.96	.24	.28				18	Lb.	3.78	.16	.20			

Wire Nails

Standard Bright Wire Nail Card



Common Nails		Box Nails		Fine Nails		Sterilized, Blued Lath Nails	
Size	Extra Over Base Per 100 Lb.	Size	Extra Over Base Per 100 Lb.	Size	Extra Over Base Per 100 Lb.	Size	Extra Over Base Per 100 Lb.
2d	\$2.10	2d	\$2.15	2d	\$2.75	2d	\$3.10
3d	1.60	3d	1.80	*2d	3.10	†2d	3.45
4d	.95	4d	1.25	3d	2.10	3d	2.45
5d	.85	5d	1.15	*3d	2.40	†3d	2.75
6d	.70	6d	.95	Clinch Nails Oval Head Duck Bill Point		Barrel Nails 5/8" \$3.05 3/4" 2.75 7/8" 2.15 1" 2.00 1 1/8" 1.90 1 1/4" 1.75 1 3/8" 1.40 1 1/2" 1.20	
7d	.60	7d	.85				
8d	.50	8d	.70				
9d	.45	9d	.65				
10d	.40	10d	.60				
12d	.40	12d	.60	2d	\$2.75	Berry Box Diamond Point —No. 16— Smooth Barbed 3/4" \$3.05 \$3.05 7/8" 2.85 2.85 1" 2.50 2.50 1 1/8" 2.40 2.45 1 1/4" 2.25 2.30 —No. 17— 3/4" \$3.55 \$3.55 7/8" 3.05 3.05 1" 2.95 2.95 1 1/8" 2.75 2.80 1 1/4" 2.40 2.45	
16d-60d	.35	16d	.60	3d	2.25		
Casing Nails		20d	.45	4d	1.60		
2d	\$2.20	30d	.40	5d	1.50		
3d	1.70	40d	.40	6d	1.35		
4d	1.30	Siding Nails 5d \$1.30 6d .95 7d .85 8d .70 9d .65 10d .60		7d	1.25		
5d	1.20			8d	.90		
6d	.85			9d	.85		
7d	.75			10d	.70		
8d	.60			12d	.70		
9d	.55	Slatting Nails 2d \$1.60 3d 1.20 4d .95 5d .85 6d .75		16d	.65		
10d	.50			20d	.55		
12d	.50			30d	.30		
16d	.50			40d	.30		
20d	.35	Roofing Nails Regular Head Smooth Barbed 3/4" \$1.95 \$1.95 7/8" 1.70 1.70 1" 1.60 1.60 1 1/8" 1.40 1.45 1 1/4" 1.25 1.30 1 3/8" 1.15 1.20 1 1/2" .95 1.00 1 3/4" .85 .90 2" .75 .80		4d	\$1.15		
30d	.30			5d	.90		
40d	.30			6d	.85		
Flooring Brads, Std.				7d	.70		
6d	\$.75			8d	.65		
7d	.65	Common Brads 2d \$2.15 3d 1.65 4d 1.00 5d .90 6d .75 7d .65 8d .55 9d .50 10d .45 12d .45 16d-60d .40		9d	.60		
8d	.55			10d	.60		
9d	.50			12d	.60		
10d	.45			16d	.55		
12d	.45			20d	.55		
16d	.40	Fence Nails 5d \$.70 6d .65 7d .50 8d .45 9d .40 10d .40 12d .35 16d .35 20d .35		30d	.55		
20d	.30			40d	.55		
Common Brads				50d	.55		
2d	\$2.15			60d	.55		
3d	1.65	Finishing Nails 2d \$2.65 3d 1.95 4d 1.65 5d 1.55 6d .95 7d .85 8d .65 9d .60 10d .55 12d .55 16d .55 20d .40		Heavy			
4d	1.00			4d	\$1.00		
5d	.90			5d	.85		
6d	.75			6d	.80		
7d	.65			7d	.70		
8d	.55	Boat Nails Oval Ctsk. Heads Chisel Point Light Heavy 4d \$1.05 \$1.15 6d .90 .95 8d .75 .80 10d .75 .85 12d .75 .85 16d .75 .85 20d .65 .75		8d	.65		
9d	.50			9d	.60		
10d	.45			10d	.60		
12d	.45			12d	.55		
16d-60d	.40			16d	.55		
Shingle Nails		Clout Nails Duck Bill Point 3/4" \$3.35 7/8" 2.75 1" 2.60 1 1/8" 2.50 1 1/4" 2.10 1 3/8" 1.90 1 1/2" 1.80		20d	.55		
3d	\$1.35			30d	.55		
3 1/2d	1.20			40d	.55		
4d	1.10			50d	.55		
5d	1.00			60d	.55		
6d	.95	Hinge Nails Chisel Point Light Flat Oval Ctsk. Head 4d \$1.05 .95 6d .90 .80 8d .75 .65 10d .75 .65 12d .75 .65 16d .75 .65 20d .65 .55		Heavy			
Barbed Car Nail				4d	\$1.15		
Slatting Nail				6d	.95		
Shingle Nail				8d	.80		
Sterilized Blued Lath Nail				10d	.85		
Berry Box Nail		Annealed nails, 25 cents per 100 pounds extra. Blued nails, 35 cents per 100 pounds extra. *Barbing nails, 1 inch and shorter, no charge; longer, 5 cents. *Special points, except duck bill, 15 cents per 100 lb. extra. *Special heads, prices upon application. Galvanizing, prices upon application. *Subject to additional extras for quantity.		12d	.85		
Felt Roofing Nail				16d	.85		
Fine Nail				20d	.75		
Barbed Roofing Nail							
Barrel Nail							

*Extra fine.

†Light.

‡For needle points, add 15 cents.

\$For oval head and chisel point, add 15 cents per feature.

Special Extras on Standard Wire Nails

Annealed nails, 25 cents per 100 pounds extra.

Blued nails, 35 cents per 100 pounds extra.

*Barbing nails, 1 inch and shorter, no charge; longer, 5 cents.

*Special points, except duck bill, 15 cents per 100 lb. extra.

*Special heads, prices upon application.

Galvanizing, prices upon application.

*Subject to additional extras for quantity.

For prices of all nails, see Standard Nail Card.

Miscellaneous Wire Nails and Wire Brads

Per Pound in 100-Pound Kegs

3/16-Inch				1/2-Inch (Cont.)				1 1/4 & 1 3/4-In. (Cont.)			
Ga.	Flat Head Nails	Brads		Ga.	Flat Head Nails	Brads		Ga.	Flat Head Nails	Brads	
20	\$1.54	\$1.78		18	\$5.54	\$5.57		14	\$3.32	\$3.35	
21	2.11	2.41		19	.64	.69		15	.33	.36	
22	2.69	3.08		20	.76	.81		16	.34	.37	
23	3.35	3.93		21	.88	.95		17	.36	.39	
24	3.59	4.36		22	1.14	1.21		18	.37	.40	

Corkers

		Countersunk Heads					
Size	Extra Over Base per 100 Lb.	Length Inches and Gage	Approx- imate No. Nails per Lb.	Size	Extra Over Base per 100 Lb.	Length Inches and Gage	Approx- imate No. Nails per Lb.
2d	\$2.50	1 x16	1084	2d	\$2.55	1 x16	1084
3d	2.15	1 1/8x15 1/2	848	3d	2.05	1 1/4x15	678
4d	1.50	1 3/8x14	488	4d	1.25	1 1/2x13 1/2	392
5d	1.20	1 5/8x13 1/2	364	5d	1.25	1 5/8x13 1/2	364
6d	1.10	1 7/8x13	275	6d	1.05	1 7/8x12 1/2	232
7d	.95	2 1/8x12 1/2	212	7d	1.00	2 1/8x12 1/2	212
8d	.75	2 3/8x11 1/2	142	8d	.80	2 5/8x11	129
9d	.70	2 5/8x11 1/2	130	9d	.75	2 5/8x11	114
10d	.65	2 7/8x11	104	10d	.65	2 7/8x10	84

Sinkers

Countersunk Heads				16d	.60	3 ³ / ₈ x 9	59
2d	\$2.55	1 x16	1084	20d	.55	3 ⁷ / ₈ x 7	36
3d	2.20	1 ¹ / ₈ x15 ¹ / ₂	848	30d	.55	4 ³ / ₈ x 6	27
4d	1.55	1 ³ / ₈ x14	488	40d	.55	4 ⁷ / ₈ x 5	21
5d	1.25	1 ⁵ / ₈ x13 ¹ / ₂	364	50d	.55	5 ³ / ₈ x 4	16
6d	1.15	1 ⁷ / ₈ x12		60d	.55	5 ⁷ / ₈ x 3	12

Egg Case Nails

9d	.75	25 $\frac{1}{8}$ x11 $\frac{1}{2}$	130	Large Flat Heads		
10d	.70	27 $\frac{1}{8}$ x11	104	2d	\$2.65	1 x16 1050
12d	.65	31 $\frac{1}{8}$ x10	77	3d	2.25	1 $\frac{1}{8}$ x15 738
16d	.60	34 $\frac{1}{4}$ x 9	61	4d	1.55	1 $\frac{1}{2}$ x14 435
20d	.55	38 $\frac{1}{4}$ x 7	27			

Box Nails

50d	.55	5 1/4x 4	16	2d	\$2.90	1	x16 1/2	1300
60d	.55	5 3/4x 3	13	3d	2.50	11 1/2	10	250

Fruit Box Nails

4d	\$2.05	1 3/8x15	623	4 1/2d	1.90	1 1/2x15	578
				5d	1.90	1 5/8x15	536

Veneer Box Nails

				8d	.95	2 ³ / ₈ x12 ¹ / ₂	186
				9d	.90	2 ⁵ / ₈ x12 ¹ / ₂	167
4d	\$1.70	1 ¹ / ₂ x14	435	10d	.80	2 ⁷ / ₈ x11 ¹ / ₂	118

Apple Box Nails

Large Flat Heads			Orange Box Nails		
5d	\$1.55	1 5/8x14	418		
1 1/2d	1.35	1 3/8x14	388		
4d	\$2.15	1 1/2x15	370		

Orange Box Nails

1/2" x 1.00	1/4 x 1.11	500	4d \$2.15	1/4 x 1.15	679
Heavy Barbed Car Nails			Light Barbed Car Nails		

Light Barbed Car Nails

EXTRA OVER BASE				Approximate No. Nails per Lb.	EXTRA OVER BASE				Approximate No. Nails per Lb.
Size	Oval Ctsk. Head	Flat Ctsk. Head	Length Inches and Gage		Size	Oval Ctsk. Head	Flat Ctsk. Head	Length Inches and Gage	
4d	\$1.30	\$1.20	1½x12	278	4d	\$1.40	\$1.30	1½x13	335
5d	1.05	.95	1¾x10	138	5d	1.10	1.00	1¾x11	176
6d	1.00	.90	2 x10	117	6d	1.05	.95	2 x11	149
7d	.85	.75	2¼x 9	85	7d	.90	.80	2¼x10	103
8d	.80	.70	2½x 9	78	8d	.85	.75	2½x10	96
9d	.75	.65	2¾x 8	62	9d	.75	.65	2¾x 9	74
10d	.75	.65	3 x 8	55	10d	.75	.65	3 x 9	65
12d	.70	.60	3¼x 7	44	12d	.75	.65	3¼x 8	51
16d	.70	.60	3½x 7	38	16d	.70	.60	3½x 8	48
20d	.60	.50	4 x 6	29	20d	.60	.50	4 x 7	36
30d	.60	.50	4½x 6	26	30d	.60	.50	4½x 7	31
40d	.70	.60	5 x 5	20	40d	.60	.50	5 x 6	24
50d	.70	.60	5½x 4	15	50d	.70	.60	5½x 5	17
60d	.70	.60	6 x 4	14	60d	.70	.60	6 x 5	16

Special Extras on Pearson Coated Nails

*Subject to additional extras for quantity.

Packing Extras to be Added to List Prices

Size Container.....	pounds	50	25	10	5
*In Fiber Cartons.....	per pound	\$0.02	\$0.03	\$0.05	\$0.05
In Wooden Boxes.....	per pound	.02	.04	.12	.22
Size Paper.....lb.		5	1	1	1 1/2
Per Pound.....		\$0.06	.12	.12	.13 .15
Papers in Carton.....			5		
Cartons in Ship.....		12	12	12	12 12

*Furnished as standard practice unless otherwise ordered.
†Number of papers.

Extras for Special Features to be Added to List Prices

For cement coating, barbing, annealing, bluing, for oval or cone head, special diameter flat heads, for stock stiffer than standard, or for other types of flat countersunk heads, add 3 cents per pound.

No charge for checkered head and blunt point.

For headless and deep countersunk flat heads (of casing and flooring brad types), use list prices for brads.

Needle and Other Special Points and Pointless

To arrive at net list for special points combine following extras according to length and gage, adding result to list for size, all of which is subject to discount.

Length.....inches	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	Longer than $\frac{5}{8}$
Per Pound.....	\$.26	.13	.06	.02	.02	.01

For intermediate length use extra for next shorter length.

		Gage										
Gage.....	10 to 18 &											
	17 Incl. 19	20	21	22	23	24	25	26				
Per Pound.	\$.01 .02	.03	.05	.06	.07	.08	.11	.14				

For split gage use extra for next finer gage.

Helyx Drive Screw Nails

Regular or Heavy Duty Type



Countersunk Head



Flat Head



Oval Head

The drive screw nail with the spiral thread; drives like a nail, but turns and holds like a screw.

The regular type is for wood to wood.

The heavy duty type is for wood to steel. Attaches wood

sleepers or insulation board to sheet steel up to 16 gage. Heavy eye beams or other structural steel require drilling through the material to be fastened—a hole .015 to .020 smaller than the diameter over the thread of the drive screw nail to be used.

Prices listed below are for bright or blued finish in 100-pound kegs, any style head.

When ordering specify flat, oval, countersunk, button or headless.

Per 100-Pounds Kegs

Screw Gage...	No. 1 .072"		No. 2 .086"		No. 3 .099"		No. 4 .112"		No. 5 .125"		No. 6 .138"		No. 7 .151"		No. 8 .164"		No. 9 .177"	
	Per 100-Lb. Keg	Approx. No. per Lb.	Per 100-Lb. Keg	Approx. No. per Lb.	Per 100-Lb. Keg	Approx. No. per Lb.	Per 100-Lb. Keg	Approx. No. per Lb.	Per 100-Lb. Keg	Approx. No. per Lb.	Per 100-Lb. Keg	Approx. No. per Lb.	Per 100-Lb. Keg	Approx. No. per Lb.	Per 100-Lb. Keg	Approx. No. per Lb.	Per 100-Lb. Keg	Approx. No. per Lb.
Wire Gage...	No. 15		No. 14		No. 13		No. 12		No. 11		No. 10		No. 9		No. 8		No. 7	
1/2	\$94.50	1960	\$65.00	1440	\$60.30	1000	\$57.25	860	\$48.90	670	\$39.00	540	.....	.....	.....	.....	.....	.....
5/8	92.45	1700	63.50	1210	59.25	930	56.20	700	47.85	590	37.95	485	.....	.....	.....	.....	.....	.....
3/4	90.40	1490	62.00	1025	58.20	850	55.15	610	46.80	510	36.90	415	\$35.00	380	\$33.90	290	\$32.40	240
7/8	88.35	1280	60.50	865	57.15	735	54.10	540	45.75	445	35.85	355	33.95	290	32.15	250	30.00	225
1	86.30	1160	59.00	770	56.10	680	53.05	465	44.70	360	34.80	290	32.90	250	31.40	208	29.25	212
1 1/8	84.25	1030	57.50	700	55.05	580	52.00	415	43.65	330	33.75	265	31.85	235	30.65	194	28.50	196
1 1/4	82.20	895	56.00	640	54.00	460	49.95	380	42.60	300	32.70	235	30.80	225	29.90	179	27.75	166
1 1/2	79.50	730	54.00	500	52.20	415	48.15	310	40.80	250	30.90	205	29.00	190	28.85	150	26.70	130
1 3/4	78.20	640	52.00	435	50.40	370	46.35	275	38.20	220	29.10	175	27.80	165	27.20	130	25.65	110
2	.....	.....	50.00	370	48.60	280	44.50	245	36.00	195	27.30	155	26.75	125	25.40	115	24.60	95
2 1/4	.....	.....	.....	.....	.....	.....	42.75	215	32.40	165	25.70	140	25.50	110	24.10	100	23.55	85
2 1/2	.....	.....	.....	.....	.....	.....	.....	.....	30.60	135	24.80	125	24.65	100	23.70	90	22.65	75
2 3/4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	24.80	115	24.65	95	23.70	85	22.65	70
3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	24.80	100	24.65	85	23.70	80	22.65	65
3 1/4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	24.80	95	24.65	78	23.70	71	22.65	60
3 1/2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	24.80	85	24.65	70	23.70	65	22.65	55
3 3/4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	23.70	55	22.65	50
4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	23.70	50	22.65	45

Net Packing Extras Per 100 Pounds

1 and 5-Pound Papers.....	add \$2.00
10-Pound Wood Boxes.....	add 1.50
25-Pound Wood Boxes.....	add .75

Heavy Duty Type

For steel, sheet metal application add \$3.25 net per 100 lbs.

Net Extras for Finishes per 100 Pounds

Cement Coated or Varnished.....	add \$1.00
Brass Plated.....	add 3.00
Tinned.....	add 2.00
Nickel Plated.....	add \$4.00
Hot Galvanized.....	add 4.00
Cadmium Finish.....	add 4.00

Helyx Steel Concrete Screw Nails



For attaching wood or steel to concrete. Eliminates use of expansion bolts, plugs,

lead anchors, etc. Drives like a nail, turns like a screw.

All nails .180 gage. Packed 100 pounds in a keg.

Length Inches	Per Keg	Approx. Count per Lb.	Length Inches	Per Keg	Approx. Count per Lb.
3/4	\$37.81	240	2 1/4	\$36.48	80
1	37.38	204	2 1/2	36.30	68
1 1/4	37.20	176	2 3/4	35.94	60
1 1/2	37.01	116	3	35.94	56
1 3/4	36.83	112	3 1/2	35.23	52
2	36.66	92	4	34.50	49

*For sheet metal work. †For 1x2-in furring strips.

Net Extras for Packing

25-Lb. Boxes... per cwt. \$.75	5-lb. Boxes... per cwt. \$2.00
10-Lb. Boxes... per cwt. 1.50	1-lb. Boxes... per cwt. 2.00

Net Extras for Finishes

Washed Tinned... per cwt. \$2.00	Japanned... per cwt. \$3.00
Brass Plated... per cwt. 3.00	Cadmium... per cwt. 4.00

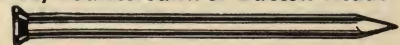
Common Cut Nails



Size	Advance over Base	Length In.	Size	Advance over Base	Length In.
2d	\$1.95	1	16d	\$.35	3 1/2
3d	1.60	1 1/4	20d	.25	4
3 1/2d	1.35	1 3/8	30d	.25	4 1/2
4d	1.10	1 1/2	40d	.25	5
5d	.85	1 3/4	50d	.25	5 1/2
6d	.65	2	60d	.25	6
7d	.60	2 1/4	70d	.40	6 1/2
8d	.55	2 1/2	80d	.40	7
9d	.55	2 3/4	90d	.40	7 1/2
10d	.45	3	100d	.40	8
12d	.40	3 1/4	.....	.....	.....

Nodril Steel Concrete Pins

Flat, Countersunk or Button Heads



For attaching wood or steel to concrete. Drives into concrete or mortar no matter how old. Made of 10 gage steel. Only 3/4-inch of pin to enter concrete.

Length Inches	per 100 Lb.	Count per Lb.	Length Inches	per 100 Lb.	Count per Lb.
1 1/2	\$43.20	544	1 1/2	37.20	176
5/8	42.00	448	1 3/4	36.00	140
3/4	40.80	352	2	35.40	126
7/8	39.60	288	2 1/4	34.80	112
1	38.40	256	2 1/2	34.20	98
1 1/4	37.80	208	2 3/4	33.60	88

Net Extras for Packing

25-Lb. Boxes... per cwt. \$.75	5-Lb. Boxes... per cwt. \$2.00
10-Lb. Boxes... per cwt. 1.50	1-Lb. Boxes... per cwt. 2.00

Net Extras for Finishes

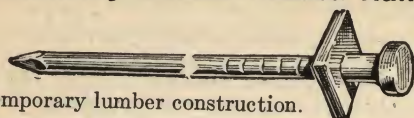
Wash Tinned... per cwt. \$2.00	Japanned... per cwt. \$3.00
Brass Plated... per cwt. 3.00	Nickel-Plated... per cwt. 4.00

Casing Cut Nails



Size	Length In.	Advance Over Base	Size	Length In.	Advance Over Base
3d	1 1/4	\$1.85	10d	3	\$.50
4d	1 1/2	1.55	12d	3 1/4	.45
5d	1 3/4	1.45	16d	3 1/2	.40
6d	2	1.10	20d	4	.35
7d	2 1/4	.85	30d	4 1/2	.35
8d	2 1/2	.70	40d	5	.35
9d	2 3/4	.70	.....	.....	.....

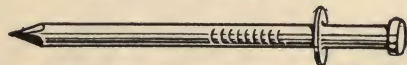
Economy Double Headed Nails



For Temporary lumber construction.

Size.....	6d	8d	10d	16d	20d	30d
Length.....in.	1 13/16	2 5/16	2 13/16	3 5/16	3 13/16	4 5/16
Per Cwt.....	\$13.25	11.50	10.85	10.25	9.90	9.90

Duplex-Head Nails

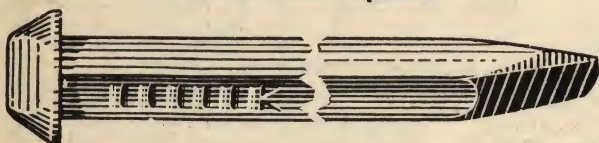


For all scaffolding, foundation, column, and other concrete forms and all temporary lumber constructions.

Made with sharp point and special heavy double head for easy driving.

Size In.	Advance over Base per 100 Pounds	Gage No.	Distance between Heads Inches	Length under Lower Head Inches
1 3/4	\$4.50	11 1/2	1/4	1 3/4
2 1/4	3.50	10 1/4	1/4	2 1/4
2 3/4	3.00	9	5/16	2 3/4
3	2.60	8	3/8	3
3 1/2	2.40	6	3/8	3 1/2
4	2.20	5	7/16	4

Square Boat Spikes



Packed in 200-pound kegs.

Extras, per 100 Pounds

1/4-Inch Square by 3 to 3 1/2 Inches Long.....	\$1.25
1/4-Inch Square by 4 to 8 Inches Long.....	1.00
5/16-Inch Square by 3 1/2 Inches Long.....	.95
5/16-Inch Square by 4 to 8 Inches Long.....	.70
3/8-Inch Square by 3 to 3 1/2 Inches Long.....	.80
3/8-Inch Square by 4 to 16 Inches Long.....	.55
1/2-Inch Square by 6 to 16 Inches Long.....	.45
1/2-Inch Square by 6 to 16 Inches Long.....	.40
5/8-Inch Square by 8 to 16 Inches Long.....	.40

Railroad Track Spikes



Packed in kegs of 200 pounds.

Extras Over Base Price, per 100 Pounds

1/4x1 1/4 Inches.....	\$2.50	3/8x3 to 4 1/2 Inches.....	\$.90
1/4x1 1/2 Inches.....	2.25	7/16x3 Inches.....	.75
1/4x2 to 2 1/2 Inches....	2.00	1/2x3 1/2 to 4 1/2 Inches...	.65
1/4x3 Inches.....	1.85	1/2x2 1/2 Inches.....	.65
5/16x2 to 4 Inches.....	1.70	1/2x3 to 3 1/2 Inches.....	.50
3/8x2 Inches.....	1.25	1/2x4 to 5 Inches.....	.25
3/8x2 1/2 Inches.....	1.15	1/2x5 1/2 and Larger....	Base

Reversed points, 1/4 cent per pound extra.

Cut Flooring Nails

Size	Extra Over Base Lgth. per 100 Lb. In.	Size	Extra Over Base Lgth. per 100 Lb. In.	Size	Extra Over Base Lgth. per 100 Lb. In.
40d	\$.35 5	10d	\$.50 3	5d	\$1.45 1 1/4
30d	.35 4 1/2	9d	.70 2 3/4	4d	1.55 1 1/2
20d	.35 4	8d	.70 2 1/2	3d	1.85 1 1/4
16d	.40 3 1/2	7d	.85 2 1/4	...	...
12d	.45 3 1/4	6d	1.10 2	...	...

Standard Special Plaster Board Blued Nails



Large heads, so the nails will have ample holding power and cover sufficient surface of the board to prevent pulling through.

Long diamond point permits the nails to cut through the boards readily without damage to the composition plaster.

Blued so they can be fed from the mouth without danger to health. Bluing process makes the nails free from injurious substances or atmospheric conditions.

Packed in paper lined kegs to insure delivery of clean, sanitary product.

Length and Gage.....in.	1x13	1 1/8x13	1 1/4x13	1 1/2x13	1 3/4x13
5/16-Inch Head.....	\$2.35	\$2.30	\$2.05	\$2.00	\$1.95
3/8-Inch Head.....	4.50	4.40	4.30	4.15	4.05

Standard Large Head Barbed Roofing Nails

Diamond Points



Bright or hot galvanized.

Gage No.	Diam. Head In.	Extra Over Base, Per 100 Lb.							
		LENGTH, INCHES							
		3/4	7/8	1	1 1/8	1 1/4	1 1/2	1 3/4	2
10	1 1/2	\$1.70	\$1.60	\$1.55	\$1.50	\$1.35	\$1.30	\$1.25	\$1.20
10	1 1/16	1.65	1.55	1.50	1.50	1.30	1.25	1.20	1.15
10 1/2	1 1/16	1.75	1.65	1.60	1.60	1.45	1.35	1.30	1.25
11	1 1/16	1.85	1.75	1.70	1.70	1.55	1.45	1.40	1.35
12	3/8	2.05	1.95	1.80	1.80	1.65	1.60	1.55	1.45

Subject to charge for galvanizing.

Tin Roofing Caps



Diameter.....inches	3/4 to 1 1/2	1 to 1 1/2
Per Pound.....	.....	.....

Barbed Dowel Pins



Lgth. In.	Ga. No.	No. to Lb.	Advance Over Base	Lgth. In.	Ga. No.	No. to Lb.	Advance Over Base
5/8	8	290	\$1.90	1 1/8	8	165	\$1.45
3/4	8	250	1.80	1 1/4	8	150	1.35
7/8	8	210	1.70	1 3/8	8	130	1.25
1	8	190	1.55	1 1/2	8	120	1.15

Heckman Concrete Nails



These nails are used to fasten various kinds of metal and wooden building material to hard concrete.

Furnished in lengths from 1/2 inch, graduating by quarter inch up to and including 3 inches.

Packed in 50-pound bags or 100-pound kegs.

Nails.....per cwt. \$20.00

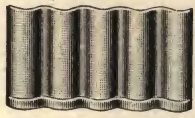
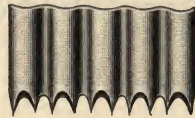
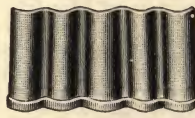
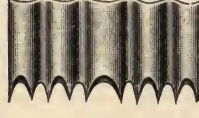
Magnet Punch

For starting 1/2-inch nails into concrete in connection with metal strips.

Punch.....each \$.50



Wrought Steel Corrugated Joint Fasteners

No. 3300, Plain Edge
Parallel CorrugationsNo. 3315, Saw Edge
Parallel CorrugationsNo. 3306, Plain Edge
Divergent CorrugationsNo. 3320, Saw Edge
Divergent Corrugations

These fasteners are used for making strong, tight joints in box shocks, cabinet work, screen doors, window screens, broken furniture, signboards, billboards, built-up work, columns, and in all kinds of repair work in wood.

Made in four different types, of varying depths and corrugations.

When ordering, give depth and number.

Packed in cartons of 1000, 500 and 250. 100 in a paper box, 10 boxes to a carton; also in bulk, kegs and barrels.

No. of Corru- gations	PRICE, PER 1000						
	DEPTH, INCHES						
	1/4	3/8	1/2	5/8	3/4	7/8	1
2
3
4
5
6
7

Brass Escutcheon Pins



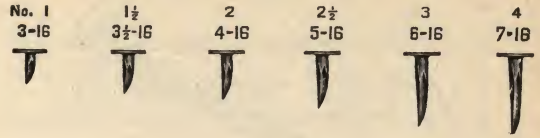
Price, per Pound

Wire Ga. No.	LENGTH, INCHES					
	3/16	1/4	5/8	1/2	5/8	3/4
10	....	....	\$.85	\$.80	\$.78	\$.76
11	....	....	.95	.87	.84	.82
12	....	\$1.15	.98	.93	.90	.87
13	....	1.20	1.03	.98	.93	.90
14	*\$1.50	1.25	1.05	1.00	.96	.92
15	*1.60	1.35	1.15	1.07	1.00	.95
16	*1.75	1.45	1.20	1.10	1.03	.99
17	*2.00	1.60	1.40	1.25	1.17	1.10
18	*2.50	1.90	1.50	1.35	1.27	1.20
19	*2.75	2.15	1.75	1.60	1.45	1.35
20	*3.00	2.35	2.10	1.95	1.80	1.65
21	*3.25	*2.75	*2.50	*2.30	....	....
22	*3.50	*3.15	*2.85	*2.60	....	....
24	*4.00	*3.50	*3.10	*2.85	....	....

Wire Ga. No.	LENGTH, INCHES					
	3/8	1	1 1/4	1 1/2	1 3/4	2
10	\$.75	\$.74	\$.72	\$.71	\$.70	\$.69
11	.80	.78	.76	.75	.74	.73
12	.85	.83	.79	.77	.76	.75
13	.87	.84	.80	.78	...	...
14	.88	.85	.81	.80	...	...
15	.92	.90	.86	.84	...	...
16	.96	.94	.90	.88	...	...
17	1.04	1.00	.96	.94	...	...
18	1.15	1.10	...	...	...	...
19	1.30	1.25	...	...	...	...

*Sizes made on special order only.

Flat or Oval Head Copper Tacks



Packed in 1/8, 1/4 and 1/2-pound papers; 1 and 10-pound packages; 25-pound boxes; 100-pound kegs.

No.	Size In.	No.	Size In.	No.	Size In.	No.	Size In.
1	3/16	3	5/16	10	10/16	18	14/16
1 1/2	3 1/2 16	4	7/16	12	11/16	20	15/16
2	1/2 16	6	9/16	14	12/16	22	16/16
2 1/2	2 1/2 16	8	5/8	16	13/16	24	18/16

Prices upon application.

Upholsterers' American Cut Tacks
Blued, Cold Tinned and Hot and Electro Galvanized

In 100-Pound Kegs

Size No.	Length Inches	Per 100 Pounds	Size No.	Length Inches	Per 100 Pounds
10 & Lgr.	5/8 & Longer	....	3	3/8	....
8	9/16	....	2 1/2	5/16	....
6	1/2	....	2	1/4	....
4	1/16	....	1 1/2	7/32	....
			1	3/16	....

Clout Nails

Bright or Blued

Length Inches	100-Lb. Kegs	Length Inches	100-Lb. Kegs
1/2	1	....
5/8	1 1/8	....
3/4	1 1/4	....
7/8	1 1/2 & Lgr.	....

Cut Bill Posters' or Railroad Tacks

Blued or Bright—In 100-Pound Kegs



Size No.	Length In.	Per 100 Lbs.	Size No.	Length In.	Per 100 Lbs.
10	5/8 & Longer	....	4	7/16	....
8	9/16	....	3	3/8	....
6	1/2	....	2 1/2	5/16	....
			2	1/4	....

Heckman Wall Ties



No. 1 Standard Combination



No. 2 Whale Bone Combination



No. 3 Duplex Combination

Designed for use on hollow walls, in face brick work and wherever bonds are required to hold brick work together. Made of 26 and 24 gauge galvanized steel, 7/8 inch in width and 7 inches long, with deep corrugations. Tie is punched for nailing. This is for veneer work in which tie is nailed to sheathing or frame work of the building.

Packed 1000 to a box.

Approximate shipping weight, 35 pounds to a box.

No. 1 Standard Combination.....	per 1000	\$3.50
No. 2 Whale Bone Combination.....	per 1000	3.65
No. 3 Duplex Combination.....	per 1000	3.55

Sleeper Clips



	Packed in bulk				
Size.....inches	2 1/4	3 1/4	4 1/4	5 1/4	6 1/4
Sleeper Clips...per thousand	\$4.50	6.50	8.50	10.50	12.50
Wt., per Thousand.pounds	23	25	28 1/2	33	38

Heckman Type V Buck Tile Anchors



The butt end of a trowel handle should be used to drive the point of the buck tile anchor into place on gypsum tile as indicated by the arrow.

Packed 500 to the carton.

Shipping weight, 90 pounds per 1000.

Per 1000..... \$35.00

Heckman Improved Tile Anchors

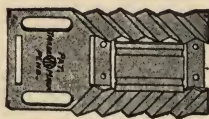
For anchoring either clay or gypsum tile to wood bucks. Anchors are nailed to the buck when the bucks are made up.

They do not in any case project outside the plaster line.

For the ordinary wood buck 6 anchors are required.

Packed 250 to a carton. Shipping weight, 180 pounds per 1000.
Per 1000.....\$45.00

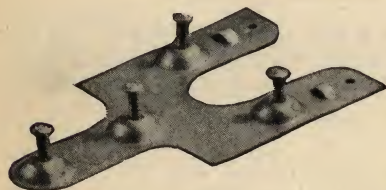
At Right—Nail Bracket Nailed to Buck Holding Anchor Flat Against Side of Buck before Tile is Set



Above—Anchor and Bracket in One Piece before Being Separated



Heckman Buck Floor Anchors



When buck floor anchors are used, no drilling and plugging are necessary to fasten wood door bucks to concrete floors.

It requires only a few seconds to set a door buck; simply nail the buck floor

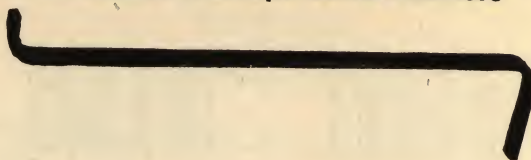
anchor to the bottom of the buck and drive the concrete nails, which are already attached to the anchors, directly into the hard concrete floor, and the job is done.

Packed 250 to the carton.

Shipping weight, 97 pounds per 1000.

With Nails Attached.....per 1000	\$32.50
With Nails Detached.....per 1000	27.50

Heckman Z-Shape Stone Anchors



Used in anchoring brick work to concrete and stone foundations or piers.

Hook is 3/4-inch high one end, 1 1/2-inches high other end. Size steel, 1/8x1 inch.

Length.....inches	6	8	10	12
Black.....per 1000	\$34.20	\$37.85	\$41.60	\$45.40
Galvanized.....per 1000	46.70	52.15	58.55	63.05
Weight per 100.....pounds	295	365	435	505

Heckman Pin Anchors



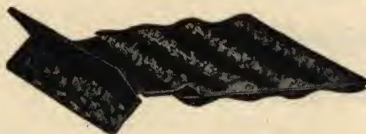
For anchoring wood joists to brick or concrete walls. The cross pin is placed outside the brick wall or is imbedded in the concrete, and the punched end is nailed to the joists.

Made in one standard size, 3/16x1x14-inch. Pins, 1/2x6 inches.

Weight, per 1000, 1000 pounds.

Pin Anchors.....per 1000 \$100.00

No. 1 Heckman Galvanized Metal Wall Plugs



The surfaces of this sturdy enduring plug are corrugated, giving it a steadfast grip on the nail and perfect adhesion to the mor-

tar or cement. The corrugations act as teeth and when the plug receives the nail it is held immovably.

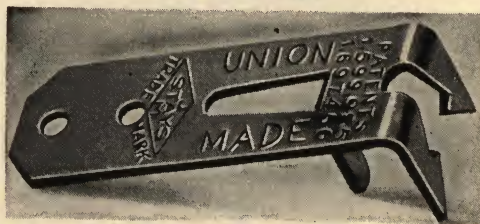
Easily set in the soft cement or into the mortar joints as wall is being constructed. When the cement or plaster hardens, the plug becomes an integral part of the wall.

Manufactured from 24 gage galvanized iron, insuring strength and permanence.

Packed 500 per carton, weight 50 lbs.

Wall Plugs.....per 1000 \$16.00

Jamb Stays



Holds jambs in perfect position, accurately and permanently. Eliminates the use of pieces of shingle, hammer marks, nail holes, marring jambs, jambs pulling away from bucks or position of security and face nailing of jambs.

Packed in corrugated cartons.

No.....	1	2	3
Jamb Stays.....per 1000	\$10.50	12.00	13.25
Weight, per 1000.....pounds	18 1/4	21 3/8	28

Bates Wire Ties and Tying Tools

For Tying Reinforcing Steel

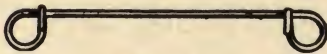


Tying Concrete Reinforcing Bars with Wire Tie and Tying Tool

Bates Wire Ties are made of a special annealed, dead-soft, 17, 16, 14 and 13-gauge wire in sizes ranging from three to twenty-seven inches in length with a loop at each end.

The tie is bent around the two pieces of reinforcing steel until the two loop ends meet. The hook on the tying tool is then inserted in the loop

ends and with a few turns, the bars are securely tied.



Wire Tie

Bates Wire Ties are shipped in rolls of 5000.

Wire Tie Table For Various Rod Combinations

Size In.		1/4	3/8	1/2	5/8	3/4	7/8	1	1 1/4	1 1/2
1/4	R	3	3 1/2	4	4 1/2	5	6	6	6 1/2	6 1/2
1/4	S	3 1/2	4	4 1/2	5 1/2	6	7	7	7 1/2	7 1/2
3/8	R	3 1/2	4	4 1/2	4 1/2	5	6	6 1/2	7	7
3/8	S	4	4 1/2	5 1/2	5 1/2	6	7	7 1/2	8	8
1/2	R	4	4 1/2	4 1/2	5	5 1/2	6	7	7 1/2	7 1/2
1/2	S	4 1/2	5 1/2	5 1/2	6	6 1/2	7	8	8 1/2	8 1/2
5/8	R	4 1/2	4 1/2	5	5 1/2	6	6 1/2	7	7 1/2	7 1/2
5/8	S	5 1/2	5 1/2	6	6 1/2	7	7 1/2	8	8 1/2	8 1/2
3/4	R	5	5	5 1/2	6	6	7	7 1/2	7 1/2	8
3/4	S	6	6	6 1/2	7	7	8	8 1/2	8 1/2	9
7/8	R	6	6	6	6 1/2	7	7	7 1/2	8	8 1/2
7/8	S	7	7	7	7 1/2	8	8	8 1/2	9	9 1/2
1	R	6	6 1/2	7	7	7 1/2	7 1/2	8	8 1/2	9
1	S	7	7 1/2	8	8	8 1/2	8 1/2	9	9 1/2	10
1 1/8	R	6 1/2	7	7	7 1/2	7 1/2	8	8 1/2	9	9 1/2
1 1/8	S	7 1/2	8	8	8 1/2	8 1/2	9	9 1/2	10	11
1 1/4	R	6 1/2	7	7 1/2	7 1/2	8	8 1/2	9	9 1/2	10
1 1/4	S	7 1/2	8	8 1/2	8 1/2	9	9 1/2	10	11	11

The letter R indicates round deformed; S, square deformed or twisted.

Length Inches	Gauge	Price per 1000	Length Inches	Gauge	Price per 1000
3 and 3 1/2	17	\$1.00	8 and 8 1/2	16	\$1.50
4 to 4 1/2	17	1.10	9 to 9 1/2	16	1.70
5 to 5 1/2	17-16	1.20	10	16	1.80
6 to 6 1/2	16	1.30	11	16	1.90
7 to 7 1/2	16	1.40	...	...	...

Pistol Grip Tying Tool, Illustrated.....each \$1.00

Bates Spring Return Twisters



For loop ties made of 19 to 16-gage wire. Primarily used for tying bags. Also used for tying concrete reinforcing bars.

Handle is of steel tubing; has zinc end cap and spiral of drill rod. Special steel wire spring and steel hook.

One pull makes a 2 1/2 turn twist; hook automatically returns to original position.

	Light	Medium	Heavy
Each.....	\$2.50	3.00	3.50
For Gate Ties.....	19, 18	19, 18, 17	19, 18, 17, 16
Weight.....ounces	9	11 3/4	22

American Triangle Mesh Concrete Reinforcements



Material may be furnished either plain or galvanized. Unless otherwise specified, shipment will be made of material not galvanized.

Style Number	Longitudinals Spaced 4 Inches Cross Wires Number 14 Gauge Spaced 4 Inches		Longitudinals Spaced 4 Inches Cross Wires Number 14 Gauge Spaced 4 Inches		Approx. Weight Pounds per 100 Square Feet
	Number and Gauge of Wires, Each Longitudinal A. S. & W. Co.'s Steel Wire Gauge	Sectional Area Longitudinals Square Inches per Foot Width	Sectional Area Longitudinals Square Inches per Foot Width	Total Effective Longitudinal Sectional Area Square Inches per Foot Width	
032	1 No. 12 gauge	.026	.032	.032	22
049	1 No. 10 gauge	.043	.049	.049	28
068	1 No. 8 gauge	.062	.068	.068	35
093	1 No. 6 gauge	.087	.093	.093	45
153	1 No. 1/4 inch	.147	.153	.153	68
245	2 No. 4 gauge	.239	.245	.245	103
365	3 No. 4 gauge	.359	.365	.365	149

Length of Rolls: 150 feet and 300 feet.

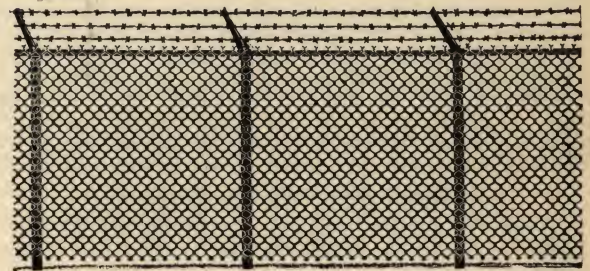
Width, 44 inches.

Ultimate tensile strength, 70000 to 85000 pounds per square inch.

Minimum yield point, 50000 pounds per square inch.

Prices upon application.

Cyclone Chain Link Fence



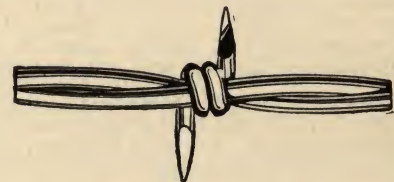
The standard protective fence for industrial property of all kinds. Provides an effective barrier against all outside dangers and annoyances.

Also desirable for parks, schools, playgrounds, institutions, cemeteries, estates, and homes. Made of copper steel wire, heavily zinc coated by the hot-dip process after weaving. Will resist weather conditions for many years. Special patented construction features likewise insure longer, better, more economical property protection.

Equipped with 3 overhanging strands of barbed wire, this type of fence is an almost impenetrable barrier. Arms may extend either inside or outside the fence. All fittings are heavily hot-dipped galvanized. Single walk and double drive gates with fabric to match fence.

Prices on application.

U.S.S. Glidden Two Point Barbed Wire

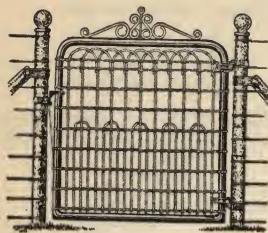


This wire is available in 80-rod spools. Galvanized. Made in thickset or hog wire, barbs about three inches apart. Made in regular or cattle wire, barbs about five inches apart. Round barbs of No. 14 steel wire gauge wrapped twice around one of the main strands. The main strands are made of No. 12 1/2 gage.

Prices upon application.

American Lawn Walk Gates

With Ornamental Top



A lawn walk gate adds the finishing touch to the view of a well-kept farm or residence enclosure.

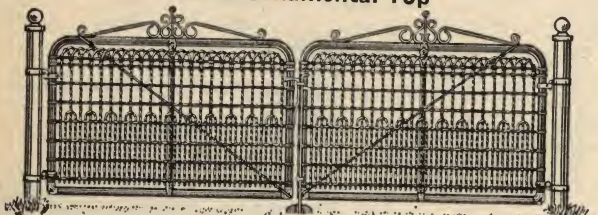
The tubular frame of this gate lends strength to the structure.

Furnished complete with latch and hinges for either wood or steel posts.

Width Open.....in.	3	3	3	3½	3½	3½
Each.....						
Height Gate.....in.	36	42	48	36	42	48
Approx. Wt.....lbs.	18	20	22	20	22	24

American Double Drive Lawn Gates

With Ornamental Top



Covered with double loop fabric, pickets 1½ inches apart in bottom section and 3 inches apart in top section.

Complete with latch and hinges for wood or steel posts.

Furnished with galvanized or aluminum painted frame.

Width Open.....ft.	10	10	10	12	12	12	14	14	14
Each.....									
Height.....in.	36	42	48	36	42	48	36	42	48
Approx. Wt.....lb.	57	60	64	63	67	72	70	75	81

Ideal Steel Fence Posts

U Type



The Ideal Post is made from new steel rolled into a channel or trough section commonly called a U. It is easily driven with an ordinary steel sledge and makes an attractive fence post both from the standpoint of strength and appearance.

The anchor plate is 4¾ inches wide by 7½ inches long, made in one piece and riveted to the back of the post. Being attached lengthwise to the post, it gives increased ground facing and eliminates the shearing point which is set up when anchor plates are applied crossways. The split wings pack the dirt against the sides of the post and insure a firm set.

Wire may be fastened at any point where it crosses the post by means of notches and clamps. The notches are ¾ inch apart on both sides of the face and the clamp draws the wire into the notch where it may be clinched with a nail. Six clamps are furnished with each post. They are packed in a cotton bag, 30 to a bag or enough for one bundle of 5 posts. The bag weighs approximately 1 pound.

The Ideal Post is finished with a heavy coat of special steel paint having high preservative and lasting qualities. The color is willow green and the paint is baked on under a high temperature.

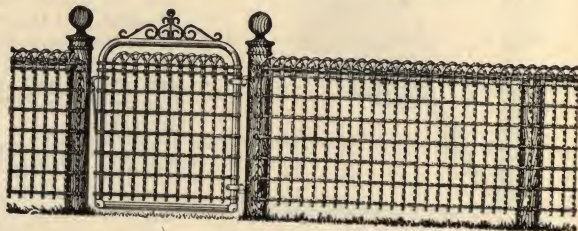
Packed 5 to a bundle.

Length.....feet	5	5½	6	
Each.....				
Approx. Weight Each.....pounds	7.32	7.99	8.65	
Length.....feet	6½	7	7½	8
Each.....				
Approx. Weight Each.....lbs.	9.32	9.98	10.65	11.31

Cyclone Red-Tag Style L-Extra Fence Fabric

For Steel or Wood Posts

Copper-Bearing Steel Throughout



Style L-Extra is a high grade, moderately-priced fence. Specially adapted for back yards and division fencing.

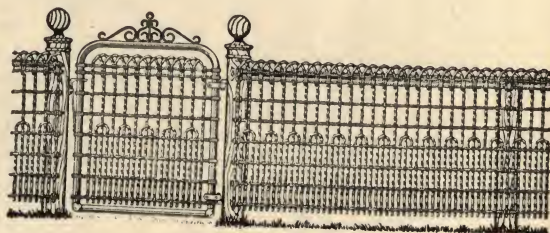
Cables are of heavy galvanized wire spaced six inches apart, except the two top cables, which are spaced 2¾ inches apart.

Pickets of heavy galvanized wire are spaced either 1½ inches or three inches apart.

Ht. In.	No. Cables	PRICE, PER FOOT		Ht. In.	No. Cables	Price per Ft. 3-Inch Mesh
		3-Inch Mesh	1½-Inch Mesh			
24	5	\$.12	\$.18	66	12	\$.30
30	6	.14	.20	72	13	.34
36	7	.16	.22	78	14	.38
42	8	.18	.24	84	15	.42
48	9	.20	.28	..	..	..
54	10	.24	..	..	..	..
60	11	.28	..	..	..	..

Cyclone Red-Tag Style F Fence Fabric

For Steel or Wood Posts



Style F is a popular ornamental fence fabric for front yards or division fence.

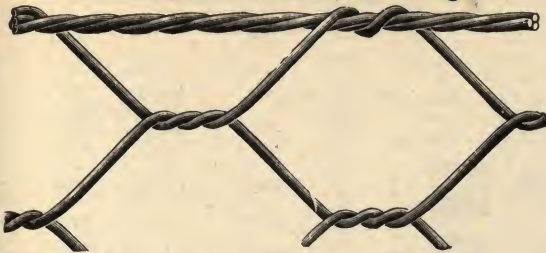
Pickets are of heavily galvanized wire spaced three inches apart at top, 1½ inches apart at bottom.

Cables are of heavily galvanized wire, spaced six inches apart, except the two top cables, which are spaced 2¾ inches apart.

Ornamental fabric is stocked in 100, 150 and 250-foot rolls.

Ht. In.	No. Cables	Per Foot	Ht. In.	No. Cables	Per Foot
24	5	\$.18	48	9	\$.28
30	6	.20	54	10	.32
36	7	.22	60	11	.36
42	8	.24	..	..	..

Hexagonal Poultry Netting



19 Gage and Heavier made Continuous Twist.
Made of copper bearing steel, galvanized after weaving.
In 150-foot rolls. 20-gage is made reverse twist.

Width In.	2-INCH 12-GAGE		2-INCH 14-GAGE		1½-INCH 14-GAGE		1½-INCH 16-GAGE	
	Per Roll	Approx. Wt. Lbs. per Roll	Per Roll	Approx. Wt. Lbs. per Roll	Per Roll	Approx. Wt. Lbs. per Roll	Per Roll	Approx. Wt. Lbs. per Roll
24	\$17.15	130	\$9.49	87	\$15.89	110	\$8.35	72
30	.....	.....	11.41	94	.....	.....	9.87	85
36	22.40	200	13.30	124	20.65	160	11.48	99
42	.....	.....	15.09	134	.....	.....	13.62	118
48	29.56	255	17.26	160	26.34	210	15.45	134
60	36.99	320	21.56	200	32.83	250	18.74	162
72	44.39	380	25.87	230	39.43	300	22.18	192

Width In.	1-INCH 16-GAGE		1-INCH 18-GAGE		¾-INCH 18-GAGE		2-INCH 19-GAGE		1-INCH 20-GAGE	
	Per Roll	Approx. Wt. Lbs. per Roll	Per Roll	Approx. Wt. Lbs. per Roll	Per Roll	Approx. Wt. Lbs. per Roll	Per Roll	Approx. Wt. Lbs. per Roll	Per Roll	Approx. Wt. Lbs. per Roll
12	.....	.....	.....	.....	.....	\$1.54	14	\$2.56	18	.....
18	.....	.....	.....	.....	.....	2.09	19	3.68	26	.....
24	\$12.88	103	\$7.44	59	\$11.97	76	2.70	24	4.82	34
30	15.57	125	9.24	73	15.04	96	3.21	29	5.98	43
36	18.39	148	10.79	86	18.06	115	3.87	34	7.00	50
42	21.09	169	12.42	99	.....	.....	4.34	39	8.01	57
48	23.72	190	14.12	112	23.59	150	4.93	44	9.06	65
60	29.35	236	17.51	139	29.45	187	6.04	54	11.24	80
72	35.27	283	21.00	167	35.07	223	7.17	64	13.58	97

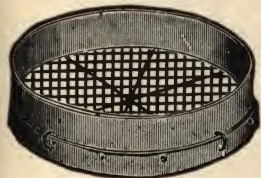
Regular Iron Wire Riddles

Used for grain or sand.
Has a 17-inch diameter, with
3 cross bars.

Made in Nos. 2, 3, 4, 5, 6, 8,
12, 14, 16 and 18.

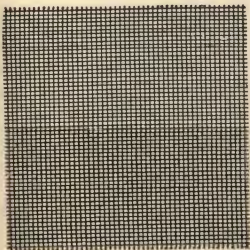
No. 2 is used for gravel and
ashes; No. 3 for beans, also
coarse sand; No. 4 for corn and
sand; Nos. 5 and 6 are used for
sand; No. 8 for wheat and fine
sand; Nos. 12 and 14 for oats;
and Nos. 16 and 18 are used by
bakers as flour riddles.

Packed one dozen of a mesh to a crate.
Shipping weight, per dozen, 25 pounds.



Price, Nos. 2 to 16.....per dozen \$14.00

Brass Wire Strainer Cloth



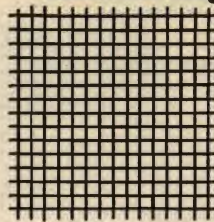
This brass wire strainer cloth
is made from a good grade of
brass wire but woven as heavy as
the market grade.

It is furnished in small rolls,
12 inches wide by 5 feet in length.
Can also be furnished 36 inches
wide in 100 lineal foot rolls.

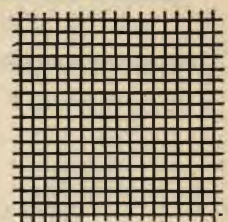
When ordering, state size mesh
wanted.

Mesh No.....	20	30	40	50	60
Price.....per square foot	.....	.....	.....	.....	.....
Mesh No.....	70	80	90	100	120
Price.....per square foot	.....	.....	.....	.....	.....

Sun-Red Edge Screen Wire Cloth



12 Mesh



16 Mesh

Sun-Red Edge Screen enameled cloth has a red edge along
selvage and has measure marks every 6 inches thus doing
away with the necessity of any measuring device.
Every roll is one continuous piece of cloth.

Black Painted

Made of highest grade steel weaving wire, heavily coated
with elastic pigment paint. Has heavy bead at intersec-
tions of wires. Paint has glossy finish and will not chip off.

Width.....inches 18 to 48 54 to 72
12-Mesh.....per 100 sq. ft. \$3.60 4.80

Alumina

Galvanized cloth, made by electro-plating process in which
steel cloth receives many coats of chemically pure zinc.
Transparent coat of varnish is baked on cloth to preserve
color and prevent discoloration by finger-marks or other-
wise.

Width.....inches 18 to 48 54 to 72
16-Mesh.....per 100 sq. ft. \$5.00 6.20

Bronze

Made from bronze rods containing 90 per cent copper and
10 per cent zinc. Bronze is best for permanency as it will
not rust or wear out easily. Superior to copper because of
greater tensile strength, and it will not sag in frame.

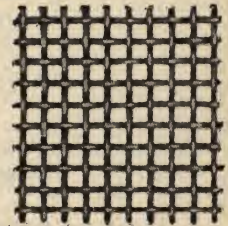
Width.....inches 18 to 48 54 to 72
16-Mesh, Bright Bronze...per 100 sq. ft. \$11.80 \$12.00
16-Mesh, Noxide Bronze...per 100 sq. ft. 12.10 13.30

Extra wide screen wire cloth furnished in 54, 60, 66 and 72-
inch widths only.

Galvanized Steel Wire Cloth Standard Hardware and Cellar Window Wire Cloth



3x3 Mesh



8x8 Mesh

Heavily galvanized after weaving. Full rolls 100 lineal
feet each.

Standard Hardware Grade

Widths, 18 to 48 inches inclusive.

Mesh Inches	Per Square Foot	Size Wire	Decimal Opening	Mesh Inches	Per Square Foot	Size Wire	Decimal Opening
2 x2	19	.459	6x 6	.....	25	.147
2½x2½	20	.365	7x 7	.....	26	.125
3 x3	21	.301	8x 8	.....	27	.108
4 x4	23	.225	10x10	.....	29	.085
5 x5	24	.177	.....	.....	.....	.....

Riddle and Sand Screen Wire Cloth Medium Grade

Widths, 24 to 48 inches.

Mesh Inches	Per Square Foot	No. of Wire	Decimal Opening	Mesh Inches	Per Square Foot	No. of Wire	Decimal Opening
1 x1	\$.15	13	.092	7x 7	\$.14	23	.025
¾x ¾	.14	14	.080	8x 8	.14	24	.023
5/8x 5/8	.14	15	.072	9x 9	.14	25	.020
2 x2	.14	16	.063	10x10	.12	26	.018
2½x2½	.14	17	.054	12x12	.13	27	.017
3 x3	.14	18	.047	14x14	.12	29	.015
3½x3½	.13	19	.041	16x16	.12	31	.0135
4 x4	.12	20	.035	18x18	.18	32	.013
5 x5	.14	21	.032	20x20	.18	34	.010
6 x6	.14	22	.028	.....	.....	.....	.....

Bale Ties

Single Loop—Standard Weight



Length Feet	WT., LBS., PER BUNDLE		PRICE, PER BUNDLE, 250 TIES	
	No. 14 Wire	No. 15 Wire	No. 14 Wire	No. 15 Wire
9	39.8	32.3	....	....
9½	42	34	....	....

Wire Fence Staples

Staples are furnished in the following standard lengths: ¾, ⅞, 1, 1¼, 1½, 1¾, 2, 2¼, and 2½ inch.

Standard spreads (inside-between shoulders) No. 9 gage ¼ and ⅝ inches. No. 14 gage ⅝ and 1¼ inches. Spreads other than standard are considered special and are subject to a special charge; also subject to the same charge are those spreads shown above, but which are required in a different gage.



1-Inch

Extras Over Base

Gage No.		Bright Hard Wire	Galvanized Hard Wire
8 and Coarser.....	per 100 lb.	\$1.10	\$1.60
9.....	per 100 lb.	.80	1.30
10.....	per 100 lb.	1.00	1.50
11.....	per 100 lb.	1.15	1.65
12.....	per 100 lb.	1.30	1.85
13.....	per 100 lb.	1.50	2.10
14.....	per 100 lb.	2.05	2.75

For split gages use next higher extra.

Per 100 Pounds

Special Spread, other than standard.....	\$.30
Staples longer than 2½ to and including 3 inch...	.55
Staples ⅝ inch long.....	.55
Staples ½ inch long.....	.85
Oiling.....	.20
Cement Coating.....	.15
Barbing.....	.05
Bluing.....	.35
Annealing.....	.25
Extra Stiff Stock.....	.25

Hot galvanized staples after forming prices on application.

Approximate Number of No. 9 Gage to Pound

Length.....inches	¾	⅞	1	1¼	1½
Quantity.....	152	120	108	96	87
Length.....inches	1½	1¾	2	2¼	2½
Quantity.....	72	65	58	47	40

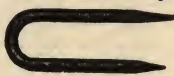
Galvanized Poultry Netting Staples



United States Steel Wire Gage No. 14.
Packed in 100-pound kegs.

Length.....inches	¾	⅞	1
Extra Over Base.....per 100 lb.	\$2.75	2.75	2.75
Number in Pound.....	480	416	352

Wrought Staples



Size In.	No. 976 Plain Per Gross	No. 976J Jap. per Gross	No. 976R Galv. per Gross	Gauge of Wire	Wt. Lbs. per 100 Gross
1120	80
1¼120	107
1½135	146
1¾135	172
2146	246
2½180	440
3192	624
3½207	868
4207	1020
5225	1436

Sizes 2½ inches and smaller packed 1 gross in a box; larger sizes, ½ gross in a box.

Smooth Steel Wire

Full Size	SIZE, WIRE, INCHES			Weight One Mile Pounds	Pounds per Foot	Feet to Pound
	Ga.	Com- mon Frac	Deci- mally			
	1		.2830	1128.0	.2136	4.681
	9/32		.28125	1114.0	.211	
	2		.2625	970.4	.1838	5.441
	1/4		.250	880.2	.1667	
	3		.2437	836.4	.1584	6.313
	4		.2253	714.8	.1354	7.386
	7/32		.21875	673.9	.1276	
	5		.2070	603.4	.1143	8.750
	6		.1920	519.2	.0983	10.17
	3/16		.1875	495.1	.0937	
	7		.1770	441.2	.0835	11.97
	8		.1620	369.6	.070	14.29
	5/32		.15625	343.8	.0651	
	9		.1483	309.7	.0586	17.05
	10		.1350	256.7	.0486	20.57
	11		.1250	220.0	.0416	
	12		.1205	204.5	.0387	25.82
	13		.1055	156.7	.0296	33.69
	3/32		.09375	123.8	.0234	
	14		.0915	117.9	.0223	44.78
	15		.0800	90.13	.0170	58.58
	16		.0720	73.01	.0138	72.32
	17		.0625	55.0	.0104	95.98
	18		.0540	41.07	.0077	128.6
	19		.0475	31.77	.006	166.2
	20		.0410	23.67	.0044	223.0
	21		.0348	17.05	.0032	309.6

Annealed and Galvanized Merchant Quality Wire

American Steel & Wire Company's Steel Wire Gage



Gage No.	EXTRAS FOR SIZE OVER BASE PER 100 POUNDS		Gage No.	EXTRAS FOR SIZE OVER BASE PER 100 POUNDS	
	Annealed	Galvanized		Annealed	Galvanized
1/4-1/2	\$.20	\$.45	13	\$.25	\$.35
6-1/4	.10	.35	14	.35	.55
6-9	Base	Base	15	.55	.85
10	.05	.05	16	.75	1.10
11	.10	.10	17	1.00	1.45
12	.15	.20	18	1.50	2.25
12½	.15	.20			

Even weight bundles, except 100-pound bundles, 5 cents per bundle extra.

Galvanized Brace Wire

Furnished in No. 8 or 9 gage. Put up in 100-pound bundles (twenty 5-pound coils).

Per 100 Pounds..... \$4.60

Malin Spring Steel Music Wire

Specially made for mechanical purposes.

Gage No.	Diam. In.	Feet per Lb.	Per Pound	Gage No.	Diam. In.	Feet per Lb.	Per Pound
*9/0	.002	93000		†25	.059	108	\$1.20
*8/0	.0025	60000		†26	.063	94	1.20
*7/0	.003	39000		†27	.067	83	1.20
*6/0	.004	23433		†28	.071	74	1.20
*5/0	.005	14997		†29	.075	68	1.20
*4/0	.006	10415		†30	.080	58	1.20
*3/0	.007	7652		†31	.083	54	1.20
*2/0	.008	5858	\$12.00	†32	.086	51	1.20
†0	.009	4629	9.00	†33	.091	46	1.20
†1	.010	3749	7.50	†34	.094	43	1.20
†2	.011	2936	6.00	†35	.098	39	1.20
†3	.012	2604	5.00	†36	.102	36	1.20
†4	.013	2218	4.00	†37	.106	34	1.20
†5	.014	1913	3.50	†38	.110	32	1.20
†6	.016	1465	3.00	†39	.114	29	1.20
†7	.018	1157	2.75	†40	.118	27	1.20
†8	.020	937	2.50	†1/8-In.	.125	24	1.20
†9	.022	775	2.25	†9/64-In.	.1406	20	1.20
†10	.024	651	2.00	†5/32-In.	.1562	16	1.20
†11	.026	560	1.80	†11/64-In.	.1718	12	1.20
†12	.029	447	1.80	†3/16-In.	.1875	10	1.20
†13	.031	391	1.60	†13/64-In.	.2031	9	1.20
†14	.033	344	1.60	†7/32-In.	.2187	8	1.20
†15	.035	305	1.60	†15/64-In.	.2343	6 3/4	1.20
†16	.037	274	1.40	†1/4-In.	.250	5 1/2	1.20
†17	.039	247	1.40	†17/64-In.	.2656	5	1.20
†18	.041	223	1.40	†9/32-In.	.2812	4 3/4	1.20
†19	.043	203	1.20	†19/64-In.	.2968	4 1/4	1.20
†20	.045	185	1.20	†5/16-In.	.3125	4	1.20
†21	.047	170	1.20	†21/64-In.	.3281	3 1/2	1.20
†22	.049	156	1.20	†11/32-In.	.3437	3 1/8	1.20
†23	.051	144	1.20	†23/64-In.	.3593	2 7/8	1.20
†24	.055	124	1.20	†3/8-In.	.375	2 3/8	1.20

*Furnished only on spools.

†Furnished in 1/4, 1/2, 1, 2, 5-pound or catch weight coils.

‡Furnished in 1, 2, 5-pound or catch weight coils.

§Furnished in 5-pound or catch weight coils.

Drill Rods**Round Drill Rods**

For making twist drills, taps, reamers, punches, and all small tools requiring highest grade crucible cast tool steel.

Regularly furnished in lengths of 3 feet.

Size In.	Decimal Equiv. In.	Price per Lb.	Size In.	Decimal Equiv. In.	Price per Lb.	Size In.	Decimal Equiv. In.	Price per Lb.
1/64	.0156	\$35.00	7/16	.4375	\$.60	55/64	.8593	\$.55
1/32	.0312	5.00	29/64	.4531	.60	7/8	.875	.55
3/64	.0468	3.50	15/32	.4687	.60	57/64	.8906	.55
1/16	.0625	2.25	31/64	.4843	.60	29/32	.9062	.55
5/64	.0781	1.75	1/2	.500	.55	59/64	.9218	.55
3/32	.0937	1.75	33/64	.5156	.55	15/16	.9375	.55
7/64	.1093	1.45	17/32	.5312	.55	61/64	.953	.55
1/8	.125	1.30	35/64	.5468	.55	31/32	.9687	.55
9/64	.1406	1.15	9/16	.5625	.55	1	1.0000	.55
5/32	.1562	1.05	37/64	.578	.55	1 1/64	1.0156	.55
11/64	.1718	1.05	19/32	.5937	.55	1 1/32	1.0312	.55
3/16	.1875	.85	39/64	.6093	.55	1 3/64	1.0468	.55
13/64	.2031	.80	5/8	.625	.55	1 1/16	1.0625	.55
7/32	.2187	.75	41/64	.6406	.55	1 5/64	1.0781	.55
15/64	.2343	.70	21/32	.6562	.55	1 3/32	1.0937	.55
1/4	.250	.65	43/64	.6718	.55	1 7/64	1.1093	.55
17/64	.2656	.65	11/16	.6875	.55	1 1/8	1.125	.55
9/32	.2812	.65	45/64	.703	.55	1 9/64	1.1406	.55
19/64	.2968	.65	23/32	.7187	.55	1 5/32	1.1562	.55
5/16	.3125	.60	47/64	.7343	.55	1 11/64	1.1718	.55
21/64	.3281	.60	3/4	.750	.55	1 13/64	1.1875	.55
11/32	.3437	.60	49/64	.7656	.55	1 3/4	1.203	.55
23/64	.3593	.60	25/32	.7812	.55	1 7/32	1.2187	.55
3/8	.375	.60	51/64	.7968	.55	1 5/8	1.2343	.55
25/64	.3906	.60	13/16	.8125	.55	1 1/4	1.250	.55
13/32	.4062	.60	53/64	.828	.55			
27/64	.4218	.60	27/32	.8437	.55			

Squares, Octagons, Hexagons and Flats

Prices upon application.

Annealed Steel Wire on Spools**W. & M. Gage**

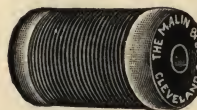
The 2-ounce, 1/4 and 1/2-pound spools are packed one dozen in a box; the 1-pound spools, 1/2-dozen in a box.

Ga. No.	2 oz.	1/4 lb.	1/2 lb.	1 lb.	Ga. No.	2 oz.	1/4 lb.	1/2 lb.	1 lb.
16	\$.65	\$.95	\$ 1.90	\$ 3.70	27	\$.85	\$ 1.40	\$ 2.80	\$ 5.45
17	.70	1.00	2.00	3.90	28	.85	1.40	2.80	5.45
18	.70	1.05	2.10	4.10	29	.95	1.45	2.90	5.65
19	.70	1.10	2.20	4.30	30	.95	1.45	2.90	5.65
20	.70	1.10	2.20	4.30	31	1.00	1.50	3.00	5.85
21	.70	1.15	2.30	4.50	32	1.05	1.55	3.10	6.05
22	.75	1.15	2.30	4.50	33	1.10	1.65	3.30	6.45
23	.80	1.20	2.40	4.70	34	1.15	1.80	3.60	7.00
24	.80	1.25	2.50	4.90	35	1.35	2.05	4.10	8.00
25	.80	1.30	2.60	5.05	36	1.60	2.40	4.80	9.35
26	.80	1.35	2.70	5.25	..	..	..	..	..

Annealed Tinned Steel Wire on Spools

The 2-ounce, 1/4 and 1/2-pound spools are packed one dozen to a box; the 1-pound, one-half dozen to a box.

Ga. No.	2 oz.	1/4 lb.	1/2 lb.	1 lb.	Ga. No.	2 oz.	1/4 lb.	1/2 lb.	1 lb.
16	\$.85	\$ 1.15	\$ 2.30	\$ 4.50	27	\$ 1.10	\$ 1.70	\$ 3.40	\$ 6.65
17	.90	1.20	2.40	4.70	28	1.10	1.70	3.40	6.65
18	.90	1.25	2.50	4.90	29	1.20	1.80	3.60	7.00
19	.90	1.30	2.60	5.05	30	1.25	1.85	3.70	7.20
20	.90	1.30	2.60	5.05	31	1.30	1.95	3.90	7.60
21	.90	1.35	2.70	5.25	32	1.45	2.20	4.40	8.60
22	.95	1.35	2.70	5.25	33	1.50	2.30	4.60	8.95
23	1.00	1.40	2.80	5.45	34	1.55	2.50	5.00	9.75
24	1.00	1.45	2.90	5.65	35	1.85	2.85	5.70	11.10
25	1.00	1.50	3.00	5.85	36	2.25	3.35	6.70	13.05
26	1.05	1.55	3.10	6.05	..	..	..	..	..

Soft and Spring Brass and Soft Copper Wire on Spools

The 2-ounce, 1/4 and 1/2-pound spools are packed one dozen to a box; the 1-pound, one-half-dozen to a box.

W & M Gauge.

Ga. No.	2-Oz.	1/4-Lb.	1/2-Lb.	1-Lb.	Ga. No.	2-Oz.	1/4-Lb.	1/2-Lb.	1-Lb.
16	\$1.55	\$2.20	\$4.40	\$8.60	27	\$1.95	\$2.90	\$5.80	\$11.30
17	1.55	2.25	4.50	8.80	28	2.15	3.10	6.20	12.10
18	1.60	2.30	4.60	9.00	29	2.30	3.30	6.60	12.85
19	1.60	2.35	4.70	9.15	30	2.50	3.55	7.10	13.85
20	1.60	2.35	4.70	9.15	31	2.65	3.85	7.70	15.00
21	1.65	2.40	4.80	9.35	32	2.85	4.15	8.30	16.20
22	1.70	2.50	5.00	9.75	33	3.15	4.45	8.90	17.35
23	1.75	2.55	5.10	9.95	34	3.40	4.75	9.50	18.50
24	1.85	2.65	5.30	10.35	35	3.65	5.15	10.30	20.10
25	1.85	2.70	5.40	10.55	36	4.00	5.65	11.30	22.05
26	1.90	2.75	5.50	10.70	..	..	..	..	..

U.S.S. Annealed Stone Wire

Twelve pounds in a stone or bundle.

No.	16	17	18	19	20	21	22	23	24
Per Lb.									

American Coppered Bessemer Rods

Carried in stock in various lengths, all sizes.

Used for many purposes, such as pins, rods, rivets, screws, rollers, etc. Made of steel, refined by the bessemer process, smooth coppered finish and are round, straight and true to size, within a limit of 2/1000 of an inch.

Prices and complete information given on any requirements.

Bird Deadening Felt

A clean sheet, exceptionally free from dust, particles of metal and other foreign matter. It has high rag content and high percentage of dead air spaces, thus giving best insulating value.

Put up in rolls 36 inches wide containing 450 square feet.

Weight, per 450 Square Feet.....	pounds	52	75
Weight, per Square Yard.....	pounds	1	1½
Rolls of 450 Square Feet.....	each	..	..

Bird Slate Surfaced Roofing

This is an extra quality roofing.

Red, green or blue black natural non-fading slate surfacing firmly imbedded in a heavy coating.

Roofing is 36 inches wide, and the roll contains 108 square feet which is sufficient to cover 100 square feet, the extra 8 square feet being allowed for the 2-inch laps.

In each roll is included a sufficient quantity of large headed nails and cement for the laps.

Approx. Weight, per Roll.....	lbs.	90
Price.....	per roll	....

Bird Universal Smooth Surfaced Roofing

A roofing for competitive and universal use.

Roofing is 36 inches wide, and the roll contains 108 square feet which is sufficient to cover 100 square feet, the extra 8 square feet being allowed for the 2-inch laps.

In each roll is included a sufficient quantity of large headed nails and cement for the laps.

Approx. Wt. per Roll... lbs.	35	45	55
Per Roll.....	..	..	..

Bird American Building Paper**Black**

This is a smooth, tough sheet, asphalt saturated. It is odorless and clean to handle.

Low in price.

Put up in rolls 36 inches wide containing 500 square feet. Weight, 25 pounds per roll.

Rolls of 500 Square Feet.....each

Bird Insulating Paper**Black**

An asphalt saturated building paper largely used for lining and insulating purposes. Also used for refrigerator cars. It is tasteless and odorless.

Put up in rolls 36 inches wide containing 1000 or 500 square feet. Weight, 90 pounds per 1000 square feet.

Rolls of 1000 Square Feet.....each

Rolls of 500 Square Feet.....each

Bird Saturated and Coated Building Paper**Black**

An asphalt saturated and coated paper used back of stucco, under clapboards, under roofing, between floors, in cooling rooms, for temporary roofing, lining cement forms, etc. It is odorless, easily handled and clean.

Put up in rolls 36 inches wide containing 500 square feet. Weight, 35 pounds per roll.

Rolls of 500 Square Feet.....each

No. 4 Rutland Roof Cement

An asphalt and asbestos cement for stopping leaks in roofs, flashings, gutters, etc. Applied with a trowel or putty knife, it stops leaks and reinforces worn spots.



Size Can Lb.	Black per Lb.	Red per Lb.	No. per Case
1	\$1.10	\$.12	24
2½	.09	.11	12
5	.08	.10	12
10	.07½	.09½	4
*25	.06	.08	..
*50	.05	.07	..
†100	.05	.07	..
†250	.05	.07	..
†500	.04½	.06½	..

*Pails. †Drums.

Rutland No-Tar-In Roof Coating

For covering whole roofs.

It may be used satisfactorily over metal, paper, built up or composition roofing.

Composed of asphalt, asbestos and drying oils.

Neither black nor red contain coal-tar in any form.



	Black	Red
1-Gallon Can, 4 per Case.....	per gallon \$.52	\$1.10
5-Gallon Steel Drum.....	per gallon .42	1.00
25-Gallon Steel Drum.....	per gallon .38	.90
50-Gallon Steel Drum.....	per gallon .35	.85

Caulking and Glazing Compound**Non-Staining**

For caulking and glazing door and window frames; in frame and masonry buildings; under window sills of frame buildings; pointing brick, stone, stucco and concrete walls, exterior; joints of stone sills, steps or brick joints; imbedding and glazing glass, greenhouses, skylights, etc.; openings in ceilings of furnace rooms to prevent dust from entering floors above; between bath and wall, shower and wall, around porch enclosures and storm sash; around roof gables, brick and wood joints; and between wood, brick, stone and stucco surfaces where openings appear.

Supplied in the following colors; natural, slate, red, green, standard brown, black and white in 1-gallon cans and 5 to 60-gallon drums.

Knife consistency compound, in light gray and slate colors only, is recommended especially for glazing. Supplied in 1 and 5-pound cans, 1-gallon cans and 5 to 60-gallon drums.

Easy Load Cartridge

Compound, in light gray only, put up in cartridges for use in caulking gun. Packed 10 (equivalent of gallon) to a carton.

Prices upon request.

Rutland Black Asphalt Paint



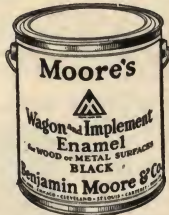
A quick drying paint for metal or paper roofs, tanks, stove pipes, and other iron work.

Based on gilsonite asphalt and contains nothing that will attack metal.

The 1-quart cans are packed 12 to a case; 1-gallon cans, 4 to a case.

Container	Per Gal.	Ship. Wt. Lbs.
1-Quart Can.....	\$3.60	†28
1-Gallon Can.....	.80	†57
5-Gal. Steel Pail.....	.70	42½
25-Gal. Steel Drum.....	.55	210
50-Gal. Steel Drum.....	.50	408
*Per dozen. †Weight per case.		

Moore's Wagon and Implement Enamel



For use on trucks, tractors and farm implements. Suitable for use on iron work as well as wood. Will prevent rust and decay of agricultural machines. Dries in 12 hours.

Covering capacity, 500 square feet per gallon.

Made in six colors and black.

½-Pint Cans.....	each	\$4.44
1-Pint Cans.....	each	.72
¼-Gallon Cans.....	each	1.28
1-Gallon Cans.....	each	4.50

Kenmar Pressure Guns Smooth Rod and Triple Thread Cap

For caulking, glazing, greasing, seaming or applying any plastic or semi-liquid materials. Pressure release, suction fill. Pressure 300 to 500 pounds can be developed with ordinary effort.

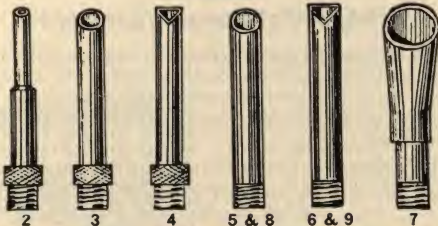
Polished cadmium rust-proof finish.

Nos. 32, 38 and 45 furnished with two extra heavy treated leather plunger cups and spring expander.

Nos. 22 and 32 packed 25 in a carton, Nos. 38 and 45 packed 12 in a carton.

No.	22	32	38	45
Each.....	\$3.50	4.50	5.50	7.00
Capacity.....	22	32	38	45
Handle.....	Rigid	Swivel	Swivel	Swivel
Barrel.....	2x7	2x10	2x12	2x14
Weight.....	3	3½	3¾	4

Nozzles



Nozzles are interchangeable and fit all regular models. Special shapes and sizes made to order. All regular model guns have No. 8, ⅜-inch nozzle as standard equipment. However, any other nozzle may be substituted by adding the difference in price to the price of the gun.

No.	Each	Size In.	Shape	No.	Each	Size In.	Shape
2	\$.70	⅜	Round	6	\$.40	1½	Triangle
3	.40	¼	Round	7	.80	¾	Round
4	.40	¼	Triangle	8	.40	¾	Round
5	.40	½	Round	9	.40	¾	Triangle

Rust-Oleum Rust Preventative Paint



A special processed paint—a combination of various oils and pigments of high quality, specially treated and blended. Does not contain linseed or asphaltum oils.

The action of Rust-Oleum fuses with the rust (iron oxide) and old paint, drying and forming a firm but flexible surface which contracts and expands with temperature variations.

May be brushed, sprayed or dipped. When sprayed or used in cold weather, it should be thinned with Rust-Oleum Oil.

Covers 600 to 800 square feet per gallon. Sold in ½ pints, pints, quarts, gallons and 5-gallon cans, 30 and 55-gallon drums.

Uses and Recommendations

No. 582 Black. Stands 450°F.

No. 634 Black. Quick-drying black. Good for production, also inside of power plants, outside and inside ships' hulls, barges, pontoons, etc.

No. 586 Red. General utility paint for maintenance of all outside structural steel.

No. 587 Maroon. Same as No. 586.

No. 769 Damp-Proof Red. For inside water tanks, for wet conditions, salt atmospheres, floors of railroad bridges, etc.

No. 583 Gray. Adaptable for exterior or interior maintenance; for wooden surfaces or concrete, brick, and corrugated iron surfaces.

No. 960 Gray. A primer for aluminum, or where a damp-proof gray is desired.

No. 904 Fume-Proof Gray. Withstands sulphuric and other fumes.

No. 973 Brine-Proof Dark Gray. Primer for floors of bridges, packing plants, etc. Withstands salt and brine.

No. 688 Sublime Blue. Dark gray or battleship gray. Especially for tanks, bridges, outside hulls; also as a primer for No. 583 Gray or No. 586 Red or Aluminum.

No. 594 Green. Decorative paint used on window sash, fences, roofs or buildings, municipal equipment, bridges.

No. 782 Green. A darker green, with qualities of No. 594.

No. S-2 Gloss White. For the inside of factories.

No. M12 Gas-Proof White. For inside or outside structures—wood, brick, cement or iron—to resist fumes of gases.

No. A-2 Interior White Enamel. Six-hour drying enamel, with fine finish; for inside of houses, offices, factories, etc. Stays white.

No. A-3 White Damar Enamel. For humid and wet atmospheric conditions. Dries in 6 hours with fine finish.

No. J-1 Outside White. For all outside work, wood or iron. Will stay white.

No. 592 Regular Aluminum Paint. Withstands 500°F. (Mix 1 gallon No. 591 Oil with 2 pounds Aluminum Paste.) Excellent primer for all wood; safety islands, light posts, fences, tanks, stacks, etc.

No. 957 Heat-Proof Aluminum Vehicle. Withstands 900°F. Mix with 2 pounds of aluminum paste or powder per gallon of vehicle. Only for temperature of 600°F. or over.

No. 591 Oil. Aluminum vehicle to mix with paste or powder for outside or inside surfaces.

No. 785 Oil. For thinning paint to proper brushing or spraying consistency.

No. 633 Quick-Drying Oil. For making 60-minute drying aluminum or thinning paint to accelerate drying time.

Aluminum Paste and Powder. Only chemically pure high grades free from adulterants are carried.

Copper Paint. Made by mixing 3 pounds of copper bronze with 1 gallon of No. 785 Oil.

No. K-1 Rocfibre Roofing. Applied without heating. Dries to a rubber-like finish. Contains no pitch or tar.

Quick-Drying Asphaltum. A fine black paint.

Concrete Floor Paint. Colors: black, red, gray, buff. Stands hard usage and leaves a fine finish.

Thuro-Sele. For waterproofing brick, cement, concrete, basement floors and wooden surfaces. Can be applied on damp surfaces. Eggshell color.

Moore's House Paint

A linseed oil prepared paint. For exterior use on wood, brick and metal.

Made with carbonate of lead, zinc oxide, reinforcing inert pigments and permanent tinting colors. Ground in linseed oil, mixed with turpentine and Japan dryers.

Dries hard with a gloss, yet possesses sufficient elasticity to prevent cracking, checking or peeling.

Covering capacity, 350 square feet per gallon, two coats.

Made in 28 shades and white and black.

1-Pint Cans.....	each	\$.64
1/4-Gallon Cans.....	each	1.12
1/2-Gallon Cans.....	each	2.10
1-Gallon Cans.....	each	3.90

Moore's Sani-Flat Paint

For all interior decorations on ceiling, walls and woodwork.

Dries with a flat finish that has the washable and durable properties of an oil paint.

Ready for use, flows freely, sets slowly, so that large surfaces may be covered without showing laps or brush marks. May be used for stippling.

Can be washed with soap and water.

Covering capacity, 500 square feet per gallon, one coat.

Made in twenty colors and white.

1-Pint Cans.....	each	\$.48
1/4-Gallon Cans.....	each	.82
1/2-Gallon Cans.....	each	1.50
1-Gallon Cans.....	each	2.70

Moore's Porch and Deck Paint

A processed linseed oil paint for use on steps, porch floors, wood or canvas decks of porches or boats. Withstands wear and tear of heavy walking and outside exposure. Will not spot white with water.

When used on exterior surfaces, dries in 12 hours; for interior floors it is slower drying.

Covering capacity, 400 square feet per gallon, two coats.

Made in eight shades.

1/4-Gallon Cans.....	each	\$1.18
1/2-Gallon Cans.....	each	2.20
1-Gallon Cans.....	each	4.10

Moore's Concrete Floor Paint

For use on concrete, cement floors, dados, ironwork, etc.

Spreads easily, hardens and dries quickly with a gloss which is not affected by mineral oil, gasoline, or washing. Prevents dusting of concrete floors and withstands heavy wear.

Dries under normal conditions in 6 hours.

Covering capacity, 600 square feet per gallon, one coat.

Made in six floor colors.

1/4-Gallon Cans.....	each	\$1.02
1/2-Gallon Cans.....	each	1.90
1-Gallon Cans.....	each	3.50

Moore's Utilac Enamel

Suited for painting chairs, tables, toys, etc. Bright and darker shades may be used for lawn furniture, automobiles, store fronts, where surface is usually repainted yearly.

Dries in about four hours; two coats can be applied in one day. Flows and levels to a smooth, hard, surface, spreading and covering well. May be used on large plaster surfaces, wallboard trim, interior woodwork, etc.

Applied with a regular paint or varnish brush.

Covering capacity, 600 square feet per gallon, one coat.

Made in 18 standard colors, also black and white, and flat black and flat white.

Size Cans...	1/4 Pt.	1/2 Pt.	1 Pt.	1/4 Gal.	1/2 Gal.	1 Gal.
Each.....	\$.30	.46	.78	1.42	2.70	5.10

Moore's Utilac Varnish Stain

A quick drying color varnish, suitable for use on all kinds of interior woodwork; stains and varnishes in one operation.

Dries with a durable luster that will not scratch, mar white, or turn white under water. Brushes easily. Produces a washable surface.

Covering capacity, 750 square feet per gallon, one coat.

Made in six standard colors and Ground color. All colors can be intermixed to secure different tone effects.

1/4-Pint Cans.....	each	\$.30
1/2-Pint Cans.....	each	.44
1-Pint Cans.....	each	.74
1/4-Gallon Cans.....	each	1.32
1-Gallon Cans.....	each	4.70

Moore's Spar Varnish

Made with 100 per cent synthetic gum. For exterior and interior use.



An excellent marine varnish for yachts, speedboats, airplanes and all surfaces exposed to sun, water and ice. Will withstand, without loss of luster, cold of snow and ice and the destructive action of salt water. Resistant to alcohol, ammonia and soap. Will not scratch white or turn white under boiling water. Dries in 5 hours.

Covering capacity, 700 square feet per gallon, one coat.

1/2-Pint Cans.....	each	\$.56
1-Pint Cans.....	each	.98
1/4-Gallon Cans.....	each	1.80
1/2-Gallon Cans.....	each	3.48
1-Gallon Cans.....	each	6.60

Moore's Movar Varnish

Used for interior floors, woodwork, trim on porch floors or front doors. Resistant to boiling water, alcohol, either, grease and oils. Will not scratch white or water spot. It is pale in color. Dries dust-free in 2 hours, hard in 6 hours. May be rubbed.

Covering capacity, 750 square feet per gallon, one coat.

Size Cans.....	1/2 Pt.	1 Pt.	1/4 Gal.	1/2 Gal.	1 Gal.
Each.....	\$.46	.78	1.42	2.72	5.10

Moore's 6x7 Floor and Trim Varnish

A low priced varnish for interior work. Will not scratch white or water spot.

Dries dust-free in 4 hours, hard in 10 hours.

Covering capacity, 750 square feet per gallon, one coat.

1/2-Pint Cans.....	each	\$.32
1-Pint Cans.....	each	.48
1/4-Gallon Cans.....	each	.82
1/2-Gallon Cans.....	each	1.52
1-Gallon Cans.....	each	2.70

Sunflex Casein Paste Paint

A concentrated paste form paint for interior use in hotels, theatres, restaurants, etc.



Dries in one hour without turpentine odor. Leaves no brush marks. Has excellent hiding power and high light reflection.

Thinned with water; 2 quarts of water are added to a gallon of paste. Therefore, a gallon of paint will actually be six quarts after the water has been added.

Approximate covering capacity, 400 square feet per paste gallon.

Colors: old ivory, new cream, buff, rich tan, sky blue, green, pearl gray, old

rose, deep orchid, and white.

Size Can..... 1-Qt. 1-Gal. 5-Gal. *30-Gal.
Each.....
*Drum.

Casein Crafcolor

Made of pure color pigment, ground in casein. May be used full strength for artwork or as tinting colors for most water-mixed paints.



Dries in one hour without turpentine odor. Works with brush or sprayer. Non-inflammable; lime-proof; has high light reflection. Uses water as a thinner.

Colors: bright red, orange, yellow, emerald, blue, violet, ochre, Indian red, burnt sienna, raw umber, burnt umber, raw sienna, and black.

Size Can. 1/2-Pt. Jar 1-Qt. 1-Gal. 5-Gal. 30-Gal. Drum
Each....

Day's Du-Pros Strictly Pure Shellac White and Orange



Made of high grade strictly pure shellac gum cut in specially denatured alcohol. Every particle of the gum is dissolved. Spreads easily and covers well.

Packed in 5, 1 and 1/2-gallon cans; quart, pint and 1/2-pint cans; and in 4 and 2-ounce jars.

Prices upon application.

Permacer Paper Masking Tape

Instant adhesion, clean, sharp edges, highly resistant to lacquers, paints and solvents. Non-sweating.

Packed each roll in an individual carton.



Size Inches	No. Yards in Roll	Per Roll
1/4	60	\$.45
3/8	60	.53
1/2	60	.62
3/4	60	.78
7/8	60	.82
1	60	.94
1 1/4	60	1.19
1 1/2	60	1.44
2	60	1.89
3	60	2.83
4	60	3.75

Savogran Crack Filler



Will not shrink and is not inflammable.

Used to fill nail and knot holes, joints, deep dents, crevices, cracks in wood, stone or plaster.

Easily mixed with water; dries quickly.

Can be polished, stained or painted to match the surrounding material. If preferred, the dry color can be added to the powder before mixing.

35-Pound All Metal Pail.....each \$7.70
5-Pound Canister.....each 1.25
1-Pound Can.....each .30

Plastic Wood



A compound that handles like putty, and hardens to wood on exposure to air. After hardening, it has all the characteristics of wood, except grain. Can be sawed, planed, whittled and turned in a lathe. It will hold screws and nails without splitting, and can be varnished or painted.

Waterproof and oilproof. Will not chip, crack, crumble or splinter, and has great adhesive properties. Furnished in natural wood colors: oak, walnut, light mahogany, dark mahogany, cedar, ebony, gum wood, and white; 10c-Tube in natural, only.

Size of Container	Each	No. in Carton	Wt. per Carton	Size of Container	Each	No. in Carton	Wt. per Carton
10c-Tube	\$.10	36	3 1/2	1-Lb.	\$.85	12	15
Handy Tube	.25	36	6	5-Lb.	3.50	2	13
1/4-Lb.	.35	36	15	25-Lb.	12.50	1	30

Plastic Wood White



This plastic wood product is prepared particularly for repairs to tiled bathrooms or kitchens, to reset loose tiles and to repair porcelain and enamel.

It is a compound of the consistency of thick paste which hardens on exposure to the air and dries a flat white.

Waterproof and oil-proof. Will not chip, crack, or crumble and does not deteriorate with age.

Tubes.....per dozen \$3.00
1/4-Pound Cans.....per dozen 4.20
1-Pound Cans.....per dozen 10.20
5-Pound Cans.....each 3.50

Plastic Wood Solvent

Plastic Wood Solvent softens plastic wood which has hardened from evaporation. It also removes dried plastic wood from fingers and tools.



Size of Container	Each	No. in Carton	Wt. Lb. per Carton
1-Oz.	\$.10	36	5 3/4
3-Oz.	.25	12	3
8-Oz.	.50	6	5
1-Qt.	1.50	2	5
1-Gal.	4.00	1	10
5-Gal.	17.50	1	42

Johnson's Liquid Wax



For floors and furniture. Especially handy for furniture, woodwork, refrigerators, etc., because of its liquid form.

Size Can.....	1-Pt.	1-Qt.	1/2-Gal.	1-Gal.	5-Gal.
Per Can.....	\$1.59	.98	1.59	2.98	12.50
No. in Carton....	12	12	6	4	1

Johnson's Self-Polishing Glo-Coat



A no-rubbing floor polish. Used on linoleum, rubber and other composition floors and painted and varnished wood floors. Just spread evenly over clean floor; shines as it dries.

Size Can.....	1-Pt.	1-Qt.	1/2-Gal.	1-Gal.	5-Gal.
Per Can.....	\$1.59	.98	1.59	2.98	12.50
No. in Carton....	12	12	6	4	1

Johnson's Traffic Wax

This is a genuine wax for hard service on large floor areas. Economical and long-wearing.

Liquid

Size Container	Per Gal.
1-Gallon Cans	\$2.35
1-Gallon Cans (Lots of 6)...	2.10
5-Gallon Cans.....	1.70

Paste

Size Container	Per Pound
5-Pound Cans.....	\$1.45
10-Pound Cans.....	.40
30-Pound Cans.....	.31

Johnson's No-Buff Floor Finish



A no-rubbing, no-polishing type finish for large floor areas.

In this finish, an ideal balance has been maintained between the qualities of long wear, easy application, quick drying, high lustre.

Size Container	Per Gallon
1-Gallon Cans.....	\$2.35
1-Gallon Cans (6-Gallon Lots)...	2.10
5-Gallon Cans.....	1.70

Johnson's Paste Wax



For polishing floors of all kinds—wood, linoleum, rubber, tile, marble, etc.

Size Cans	Per Can	No. in Carton	Size Cans	Per Can	No. in Carton
1/2-Lb.	\$1.39	12	4-Lb.	\$1.89	6
1 -Lb.	.59	12	8-Lb.	3.59	4
2 -Lb.	.98	6	30-Lb.	11.80	1



Putty

Size Package Pound	Per Pound
3	.....
5	.....
10	.....
25	.....

Savogran Heavy Duty Cleaner



Painters' Savogran

For cleaning oily garage floors, painted surfaces, walls, woodwork, floors, pots and pans, etc. Cleans exteriors of wood, stone, brick, stucco and shingled buildings. Removes dirt and grease without scrubbing.

Soaks paint spots from overalls, etc. Cleans and deodorizes drains and traps. Removes wax from floors, linoleum, etc.

Size Container	1-Lb. Can	5-Lb. Can	35-Lb. Steel Pail	165-Lb. Keg	300-Lb. Barrel
Per Pound....	\$1.25	.20	.17	.16	.15
Ship. Weight	30	70	40	173	322

*Packed 24 to a carton. †Packed 12 to a carton.

Savogran Remover and Bleacher



The triple action floor renewer; quickly strips floors for refinishing.

Removes old wax, varnish, shellac; cleans and bleaches in one operation.

Easy and safe to use; no fire danger; no harmful fumes; no caustics; no acids; no odor. Leaves no gummy residue.

One pound makes 1 gallon of remover, enough to strip an average floor.

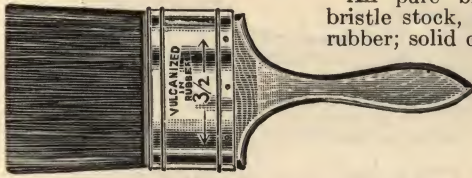
Size Container....	1-Lb. Can	5-Lb. Can	35-Lb. Steel Pail	175-Lb. Keg	300-Lb. Barrel
Per Pound.....	\$1.50	.45	.42	.40	.35
No. in Carton....	24	12	..	..	..
Ship. Wt.....lb.	30	70	40	192	322

Killdust Sweeping Compound



For sanitary dustless sweeping. Made with sisal base combined with genuine kiln-dried silica and high grade floor oil. Contains no sawdust or other wood fibre, no kerosene, no water, no refuse oils, or common sand. Used by leading institutions. Killdust does not dry out, freeze, or spoil. It holds its oil well distributed throughout and is always in shape to do efficient work; sweeps one-third more space. Approved by National Board of Fire Underwriters.

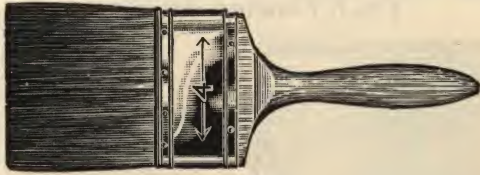
100-Lb. Steel Drums..each	\$2.50
200-Lb. Steel Drums..each	4.25
300-Lb. Barrels.....each	6.00
150-Lb. Corrugated Steel Garbage Cans.....each	3.50

No. 3-11 Noble Wall Brushes

All pure black Chinese bristle stock, vulcanized in rubber; solid center; nickel-plated ferrule; natural lacquer handle.

Packed 6 in a box.

Width Inches	Per Dozen	Thickness Inches	Stock Out Inches	Wt., Lb. per Dozen
2½	\$15.00	7/8	2½	3
3	19.00	7/8	2¾	3½
3½	23.00	7/8	3	4¼
4	26.50	7/8	3	5
4½	42.50	7/8	3¾	5¾
5	46.50	7/8	3¾	6¾
5½	53.00	7/8	3¾	7½

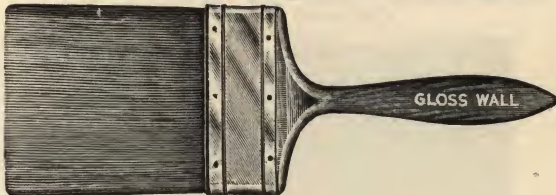
No. 11-12 Wonder Wall Brushes

Very best grade black Chinese bristle stock, vulcanized in rubber; open center; nickel-plated ferrule; natural polished oval handle.

Thickness, 7/8 inch.

Packed 6 in a box.

Width.....inches	3	3½	4
No. 11-12.....per dozen	\$33.50	47.50	65.00
Stock Out.....inches	3¼	3½	3¾
Weight per Dozen.....pounds	5¾	6¾	8¼

No. 29-1 Black Gloss Wall Brushes

An ideal short stock painter's tool. It is vulcanized in rubber; best quality black Chinese bristle stock; practically solid center; nickel-plated ferrule; natural polished oval handle. Packed 6 in a box.

Width.....inches	3	3½	4	4½
Thickness.....inches	1	1	1	1
Length Bristles.....inches	3¼	3½	4¾	4¾
Weight, Pounds.....per dozen	5¾	6¼	7½	7¾
Price.....per dozen	\$51.00	66.00	97.00	138.00

No. 7-13 Ex Super Wall Brushes

Best grade black Chinese bristle stock, vulcanized in rubber; solid center; nickel-plated ferrule; natural polished oval handle. Thickness, 1 inch.

Packed 6 in a box.

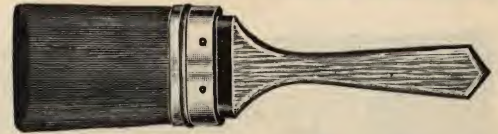
Width.....inches	3	3½	4	4½	5
No. 7-13.....per dozen	\$102.00	131.50	167.00	200.00	233.50
Stock Out.....inches	4¾	4¾	4¾	4¾	4¾
Weight per ½ Dozen.....pounds	6¾	7½	8	9½	10¾

No. 11-1 Ko Ko Varnish Brushes

This brush will be found to be a good vulcanized varnish brush. May also be used for paint.

Has black Chinese bristles. Set in rubber.

Width Inches	Length Bristles Inches	Weight Pounds	Price per Dozen
1	2	1	\$4.00
1½	2¼	1½	5.50
2	2½	2	10.00
2½	2¾	2¾	14.50
3	3	3½	22.50

No. 9-8 Flovar Flat Varnish Brushes

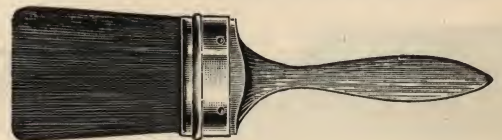
Chisel edged, black Chinese bristle stock, vulcanized in rubber; solid nickel-plated steel ferrule; flat natural varnished handle.

Width Inches	Per Dozen	Thickness Inches	Stock Out Inches	No. in Box	Wt., Lb. per Doz.
1	\$7.80	5/8	2¼	12	1½
1½	10.75	5/8	2¾	12	2
2	15.20	¾	2¾	12	2¾
2½	21.00	13/16	2¾	12	3¾
3	32.50	13/16	3¼	12	4¾
3½	50.00	7/8	3¾	6	6¼
4	74.00	7/8	3¾	6	7½

No. 11-7 Pippin Flat Varnish Brushes

Chisel edges, black Chinese bristle stock; vulcanized in rubber; nickel-plated ferrule; natural polished beaver tail handle.

Width.....in	1½	2	2½	3	3½
No. 11-7.....per doz.	\$15.50	24.00	37.00	55.50	85.50
Thickness.....in.	1¼	¾	1¾	7/8	7/8
Stock Out.....in.	2¾	3¼	3¾	3¾	3¾
No. in Box.....	12	12	12	12	6
Wt. per Doz.....lb.	2	2¾	3¾	4¾	5¾

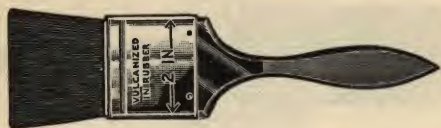
No. 13-9 Ideal Oval Varnish Brushes

All pure Chinese bristle stock, vulcanized in rubber; nickel-plated ferrules; natural polished beaver tail handle.

Packed 6 in a box.

Size No.....	30	40	50
No. 13-9.....per dozen	\$50.00	81.00	128.00
Diameter.....inches	2¼x1¾	2¾x1¾	2¾x1½
Stock Out.....inches	3¼	3¾	3¾
Weight per Dozen.....pounds	5¾	6½	8

No. 1-6 Utility Flat Varnish Brushes

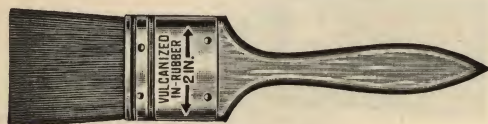


Black Chinese bristle stock, vulcanized in rubber; polished tin ferrule; two-tone handle.

Packed 12 in a box.

Width.....inches	1	1½	2	2½	3
No. 1-6.....per dozen	\$2.35	3.55	5.55	7.40	8.90
Thickness.....inches	5/16	5/16	5/16	7/16	1/2
Stock Out.....inches	2	2	2¼	2¼	2¼
Weight per Dozen...pounds	1½	7/8	1½	2	2½

No. 7-6 Service Flat Varnish Brushes



Chisel edged, black Chinese bristle, vulcanized in rubber; nickel-plated ferrule; natural varnished handle.

Packed 12 in a box.

Width.....inches	1	1½	2	2½	3
No. 7-6.....per dozen	\$3.90	5.50	8.70	13.35	15.50
Thickness.....inches	7/16	7/16	1/2	9/16	5/8
Stock Out.....inches	2¼	2¼	2½	2½	2½
Weight per Dozen...pounds	1	1½	1½	2½	3½

No. 5-10 Super Oval Sash Brushes



This oval sash brush is vulcanized in rubber. It has chisel edged, black Chinese bristle stock, and solid nickel-plated steel ferrule. Round natural finished handle.

Packed 1 dozen in a box.

No.	Diameter Inches	Length Bristles Inches	Weight Pounds per Dozen	Price per Dozen
2	1½x3/8	2	1½	\$4.00
4	¾x1½	2	1½	4.75
6	1 x 5/8	2¼	1½	6.50
8	1½x3/4	2½	2	8.50
10	1¼x1½	2¾	2½	11.00

No. 19-5 Black Trim Sash Brushes



Chisel edged, black Chinese bristle stock; nickel-plated ferrule; long flat polished handle. Vulcanized in rubber.

Packed 1 dozen in a box.

Width Inches	Thickness Inches	Length Stock Inches	Weight Pounds per Dozen	Price per Dozen
1	1/2	2¼	1¼	\$5.00
1½	9/16	2½	1¾	8.00
2	5/8	2¾	2¼	13.00
2½	5/8	3	2¾	21.50

No. 3-30 Radiator Bronzing Brushes



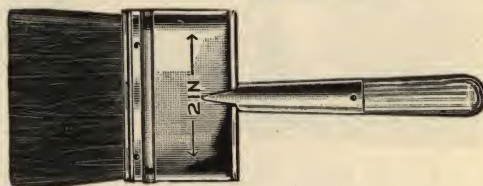
Used for bronzing radiators, etc.

A mixture of fitch hair and bristle stock, vulcanized in rubber; nickel-plated ferrule; long thin natural wood handle.

Packed 12 in a box.

Width.....inches	1	1½	2	2½
No. 3-30.....per dozen	\$7.50	8.50	11.00	14.00
Thickness.....inches	3/16	1/4	1/4	1/4
Stock Out.....inches	1¾	1½	1¾	1¾
Weight per Dozen.....pounds	5/8	7/8	1½	2

No. 17-29 Super Double Thick Chisel Fitch Flowing Brushes



Best grade of skunk hair and bristle stock, chisel edged, and double thick; vulcanized in rubber.

Packed 12 in a box.

Width.....in.	1	1½	2	2½	3	3½
No. 17-29.....per doz	\$16.00	19.50	24.50	30.50	33.00	43.00
Thickness.....in.	3/8	3/8	7/16	1/2	9/16	5/8
Stock Out.....in.	1½	1¾	1¾	2	2½	2¼
Wt. per Doz.....lb.	¾	1½	1½	2	2½	3¼

No. 15-15 Imperial Leather Bound Stucco Brushes

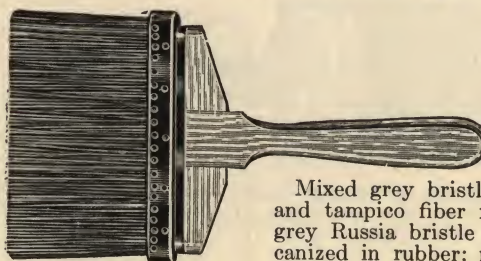


Very best grade, heavy long stock black Chinese bristle, vulcanized in rubber; open center; leather bound; natural polished plugged heel, stucco type handle.

Thickness, 1½ in. Stock out, 5¾ in. Packed 6 in a box.

Size No.....	30	35	40	45
No. 15-15.....per dozen	\$174.00	196.50	222.50	244.50
Width.....inches	3½	4	4½	5
Weight per Dozen...pounds	6¾	7¾	8¾	9½

No. 3-22 Plasterer's Finishing Brushes



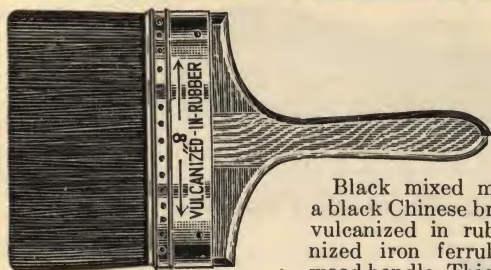
Mixed grey bristle, horsehair and tampico fiber middle with grey Russia bristle casing; vulcanized in rubber; natural varnished wood handle.

Width, 8 inches. Thickness, 1½ inches. Stock out, 4 inches.

Packed 3 in a box. Weight per dozen, 15 pounds.

No. 3-22, Size No. 12.....per dozen \$128.00

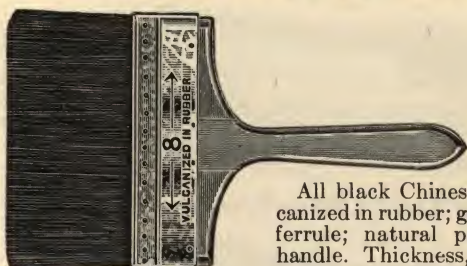
No. 5-18 Winner Flat Calcimine Brushes



Black mixed middle, with a black Chinese bristle casing; vulcanized in rubber; galvanized iron ferrule; polished wood handle. Thickness, $\frac{1}{8}$ in.

Width.....	inches	6	7	8
No. 5-18.....	per dozen	\$39.00	50.00	61.00
Stock Out.....	inches	$3\frac{7}{16}$	$3\frac{11}{16}$	$3\frac{15}{16}$
No. in Box.....		6	3	3
Weight per Dozen.....	pounds	$9\frac{1}{2}$	$11\frac{3}{4}$	$13\frac{1}{2}$

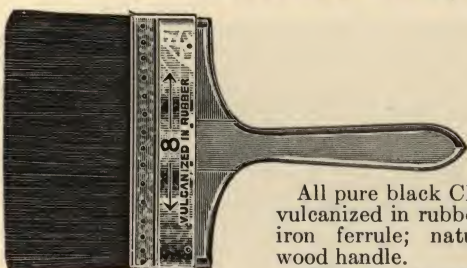
No. 9-18 Queen Flat Calcimine Brushes



All black Chinese bristle; vulcanized in rubber; galvanized iron ferrule; natural polished wood handle. Thickness, $\frac{1}{8}$ inch.

Width.....	inches	6	7	8
No. 9-18.....	per dozen	\$72.50	100.00	148.00
Stock Out.....	inches	$3\frac{7}{16}$	$3\frac{11}{16}$	$3\frac{15}{16}$
No. in Box.....		6	3	3
Weight per Dozen.....	pounds	$10\frac{1}{4}$	$12\frac{1}{2}$	$14\frac{1}{4}$

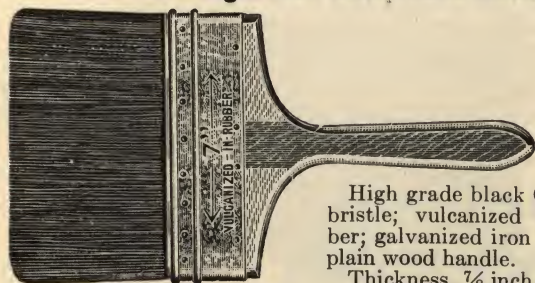
No. 11-18 Royal Flat Calcimine Brushes



All pure black Chinese bristle; vulcanized in rubber; galvanized iron ferrule; natural polished wood handle. Thickness, $\frac{1}{8}$ inch.

Width.....	inches	6	7	8
No. 11-18.....	per dozen	\$113.00	155.50	192.50
Stock Out.....	inches	$4\frac{1}{8}$	$4\frac{3}{8}$	$4\frac{5}{8}$
No. in Box.....		6	3	3
Weight per Dozen.....	pounds	$10\frac{1}{4}$	$12\frac{3}{8}$	$14\frac{1}{4}$

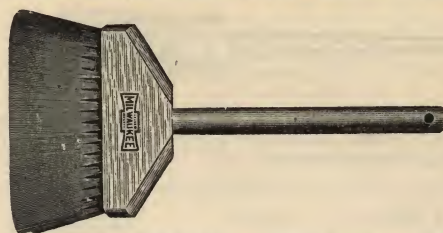
No. 13-18 Congo Flat Calcimine Brushes



High grade black Chinese bristle; vulcanized in rubber; galvanized iron ferrule; plain wood handle. Thickness, $\frac{1}{8}$ inch.

Width.....	inches	6	7	8
No. 13-18.....	per dozen	\$237.00	302.00	345.00
Stock Out.....	inches	$4\frac{5}{8}$	$5\frac{1}{8}$	$5\frac{5}{8}$
No. in Box.....		6	3	3
Weight per Dozen.....	pounds	11	$13\frac{1}{8}$	$15\frac{5}{8}$

Milwaukee Mason's Acid or Lime Brushes



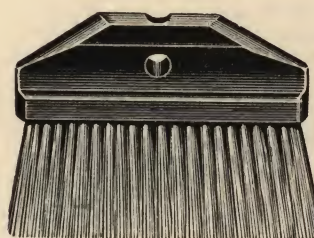
Smoothly finished handle, 12 inches long, $\frac{7}{8}$ inch diameter. Packed 6 in a carton.

No.....		473	493
Per Dozen.....		\$7.65	9.00
Size Block.....	inches	$7 \times 1\frac{1}{8}$	$8 \times 1\frac{1}{8}$
No. of Rows.....		3×17	3×20
Weight per Dozen.....	pounds	11	13

Selected fine white tampico fibre.

Length of stock, $3\frac{3}{8}$ inches, staple set. Buffered block.

No. 15-25 C Whitewash Brushes



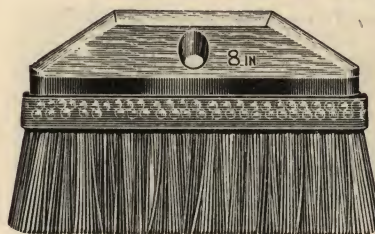
White tampico stock, set in knots and stapled into natural wood block.

Block is two rows in width and has a handle hole in the top and also in the side.

Packed 12 in a carton.

Size No.....		55	65	75
No. 15-25.....	per dozen	\$5.25	5.75	6.75
Width.....	inches	$5\frac{1}{2}$	$6\frac{1}{2}$	$7\frac{1}{2}$
Thickness.....	inches	$\frac{7}{8}$	$\frac{7}{8}$	$\frac{7}{8}$
Stock Out.....	inches	$2\frac{5}{8}$	$2\frac{5}{8}$	$2\frac{5}{8}$
Weight per Dozen.....	pounds	$4\frac{1}{4}$	$5\frac{1}{4}$	$6\frac{1}{4}$

No. 11-25 Tuck Pointer Brushes



For cleaning brick walls.

Mixed grey bristle, tampico and horse-hair; leather bound, cement set, and double nailed.

Has natural wood block with one handle hole in the side.

Width, 8 inches. Thickness, $1\frac{1}{4}$ inches. Stock out, $2\frac{1}{2}$ inches.

Packed 6 in a box.

Weight per dozen, $12\frac{1}{4}$ pounds.

No. 11-25.....	per dozen	\$72.50
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No. 5-26 Climax Whitewash Brushes

Set in Rosin

Grey mixed middles with a white bristle casing; natural varnished block with a handle hole in the top and also in side; brass bound.

Packed 6 in a box.



No.	Per Doz.	Width Inches	Thickness Inches	Length Bristles, In.	Wt., Lb. per Doz.
7	\$29.50	$6\frac{1}{2}$	$1\frac{1}{8}$	$2\frac{1}{4}$	$7\frac{5}{8}$
8	35.50	$7\frac{1}{4}$	$1\frac{1}{8}$	$2\frac{1}{2}$	$8\frac{5}{8}$

No. 7-22 Extra Round Glue Brushes



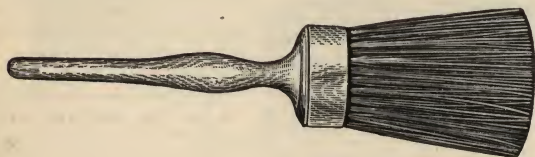
All grey Russia bristle stock cemented in ferrule. A solid round brass ferrule is used on sizes 3/0, 2/0 and 1/0; the others have a solid round copper ferrule.

The iron handle is driven through the stock and ferrule.

Packed 6 in a box.

Size No.	Per Dozen	Diameter Inches	Stock Out Inches	Wt., Lb. per Doz.
3/0	\$11.00	5/8	15/8	7/8
2/0	13.00	3/4	15/8	1
1/0	15.00	13/16	13/4	1 3/8
1	17.00	7/8	2	1 3/4
2	18.50	1	2 1/4	2 1/8
3	26.00	1 1/8	2 1/2	2 5/8

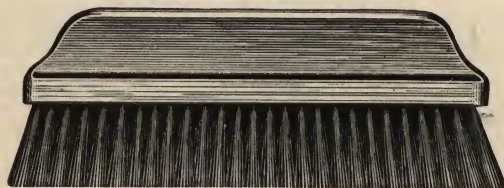
No. 45-1 Round Painters' Dusters



Set extra deep with pitch in block; warranted to hold.

No.	2	13	10	16	42	43
Per Dozen.....	\$21.50	33.00	63.00	89.00	86.00	110.00
Diam. Brush....in.	2 1/8	2 1/4	2 1/4	2 1/2	2 1/4	2 1/2
Length Bristles.in.	3 1/2	3 3/4	3 3/4	4 1/4	4 1/4	4 1/2

No. 9-24 Jackie Paper-Hanger's Smoothing Brushes



Staple set; mixed black tampico stock; clear lacquer block.

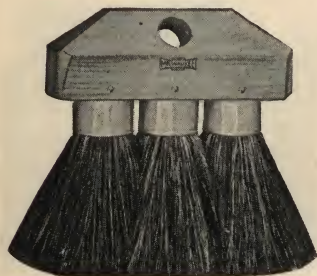
Number of rows, 2; length, 12 inches. Stock out, 2 inches.

Packed 6 in a box.

Weight per dozen, 5 3/4 pounds.

No. 9-24.....per dozen \$13.50

Tarzon Roof Paint Brushes



Selected grey tampico fibre.

Pressed steel ferrules.

Stock 3 1/2 inches out of ferrule.

Natural varnished block, 1 1/2 inches wide on face.

Packed 6 in a carton.

Size.....	3-Knot	4-Knot
Per Dozen.....	\$14.40	19.00
Weight per Dozen.....pounds	13	17

Shoe Handle Platers' Brushes



Plain finished hardwood block, wire fastened.

Four rows. Length, brush part, 5 in. over all, 10 in.; stock, 1 in. Block 1 1/16" wide. Wt. doz. 3 1/4 lb.

No. 1380, Gray Tampico Fibre.....per dozen \$4.50

No. 1381, Black Chinese Bristle.....per dozen 9.75

No. 1661 Painters' Fine Wire Dusters



Length of wire, 2 3/4 inches; 4 rows.

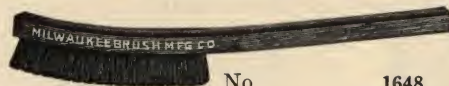
Block 2 3/4 x 1 1/8 in.

Weight per dozen, 3 3/4 pounds.

Packed 12 in carton.

No. 1661.....per dozen \$5.00

Long Handle Wire Scratch Brushes



Brush part, 6 1/4 inches long.

No.	1648	1651	1656
Per Dozen.....	\$3.30	3.45	4.50
No. of Rows.....	2x19	3x19	4x19
Length Wire.....inches	1 1/8	1 1/4	1 1/4
Weight per Dozen.....pounds	4	5 1/2	6 1/2

Shoe Handle Wire Scratch Brushes



For cleaning and removing paint, scale, rust, or dirt from wood, stone, and metal surfaces. Also used for cleaning architectural iron work, marble, etc.

Made of round wire. Solid block.

Brush part, 5 inches long.

No.	1641	1643	1646
Per Dozen.....	\$4.35	4.20	4.05
Size Block.....inches	5/8x10	3/4x10	1x10
Length Wire.....inches	1 1/4	1 1/4	1 1/4
No. of Rows.....	4	3	2
No. in Carton.....	12	12	24
Weight per Dozen.....pounds	5	3 3/4	3 1/4

No. 1665 Combination Steel Wire Scratch Brushes



Designed for removing varnish from floors, doors, etc., preparatory to refinishing. Solid block.

Brush part, 5 inches long.

Width of chiseled edge polished steel scraper, 2 7/8 inches.

Packed 1 dozen in a carton.

No.	1665
Per Dozen.....	\$10.05
Size Block.....inches	1 1/2 x 11
Length Wire.....inches	1 1/2
No. of Rows.....	4x10
Weight per Dozen.....pounds	9 1/2

No. 1611 Steel Wire Scratch Brushes Round Wire—Straight Back—Solid Block



Removes grease, rust, and dirt from any metal or wood surface.

Block 7 1/4 x 2 1/4 in. Rows 6x19. Length wire 1 3/4 in.

Packed 12 in carton.

No. 1611, Wt. per Doz., 9 1/2 Lb.per dozen \$4.95

Milwaukee Fine Steel Wire Brushes

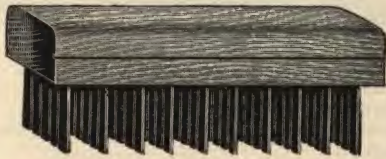


The curved face of this brush makes it especially suitable for use on flat surfaces such as hardwood floors, etc. This curved feature concentrates all the energy at the point of resistance and insures smooth brushing efficiency. Heavily filled.

Packed one dozen to a carton.

No.....	1635	1632
Per Dozen.....	\$7.35	7.50
Rows.....	6x20	9x21
Block.....inches	7 $\frac{1}{8}$ x2 $\frac{1}{4}$	7 $\frac{1}{8}$ x2 $\frac{7}{8}$
Length of Wire.....inches	1 $\frac{1}{4}$	1 $\frac{1}{4}$
Weight per Dozen.....pounds	8 $\frac{1}{2}$	10

No. 1802 Steel Wire Butcher Block Brushes



Made of flat tempered steel wire.

Has solid hardwood block, 7 $\frac{3}{4}$ x2 $\frac{5}{8}$ inches

Length of wire, 1 $\frac{1}{2}$ inches; 5x10 rows.

Brushes are shipped in bulk.

Shipping weight per dozen, 10 $\frac{1}{2}$ pounds.

No. 1802.....	per dozen	\$4.50
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No. 1736 Steel Wire Casting Brushes



Flat tempered steel wire. Solid hardwood handles. 5x10 rows. Length of wire, 3 inches. Block, 7 $\frac{3}{4}$ x2 $\frac{5}{8}$ inches.

Price, No. 1736.....	per dozen	\$6.30
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Flat Tempered Steel Wire Push Brooms



For street paving or repair work. Length wire, 5 inches; 4 rows.

No.....	1001	1002
Per Dozen.....	\$16.65	18.00
Size Block.....inches	12x2 $\frac{3}{8}$	14x2 $\frac{3}{8}$
Weight per Dozen.....pounds	28	33

Red Breast Industrial Brushes



Palmetto fibre filling, wire wrapped on wooden dowel.

Shellacked shoulders, 2 $\frac{1}{2}$ inches wide. Two rows stitching, 3 $\frac{1}{2}$ inches fibre below.

Handle, 2 $\frac{1}{4}$ inches long, solid wire wrapped, with nickel ball top and hanging ring.

Shipping weight per dozen, 3 pounds.

Per Dozen.....	\$3.50
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Whisk Brooms

No. 00 Long.—Medium grade whisk, 2 sewed, spiral wire finish, ball and ring cap 11 inches over all.

Price, No. 00, Long.....per dozen \$6.00

No. 00 Short.—Similar to the No. 00 Long only that it is 9 $\frac{1}{2}$ inches over all.

Price, No. 00, Short.....per dozen \$6.00

No. 6 Long.—Good grade whisk, 2 sewed 4 wire rings, nickel ball and ring cap, 10 $\frac{1}{2}$ inches over all.

Price, No. 6, Long.....per dozen \$7.20

No. 6 Short.—Similar to the No. 6 Long only that it measures 9 inches over all.

Price, No. 6, Short.....per dozen \$7.20

No. 1261 Flat Wire Track or Switch Brooms



With Upright Handles

Tempered flat steel wire, selected hardwood handle, 3-inch malleable iron chisel. Ferrule shrunk on to handle. Block 11x1 $\frac{5}{8}$ inches. Three rows. Length wire, 4 $\frac{1}{2}$ inches.

No. 1261, with 48-Inch Handle and Chisel.....	per doz.	\$25.20
Weight, per Dozen.....pounds		33

No. 1021 Fine Round Steel Wire Push Brooms



For sweeping rough wood or stone floors, and for scrubbing cellars, yards, service stations, etc.

Shipped in bulk.

No. 1021.....	per dozen	\$30.60
Size Block.....inches	14x2 $\frac{1}{2}$	
Length Wire.....inches	3 $\frac{1}{2}$	
Weight, per Dozen.....pounds	34	

General Utility Floor Brushes
Vanguard



For heavy sweeping on concrete, or wood surfaces in factories, shops, garages and stores. The palmetto fibre adds cutting power and brushing resistance.

Pure palmetto center, next 2 rows of selected grey fibre. Pure black horsehair casing. Wire fastened. Length of stock, 3¼ inches. Red polished block and handle, 2 threaded handle holes.

Length of Block.....inches	16	18	24
Per Dozen.....	\$48.00	54.00	84.00
Weight per Dozen.....pounds	39	42	54

Alice Floor Brushes



Selected black fibre center, black horse hair casing, wire fastened. Red polished block, two threaded handle holes, red polished handle.

The fibre center adds a penetrating effect and the hair casing makes the brush adapted for clean sweeping.

Handles are included in the prices.

Length of stock, 2¾ inches.

Packed in individual cartons.

Length.....inches	16	18	24
Per Dozen.....	\$33.00	36.00	54.00
Weight, Per Dozen.....pounds	33	36	43

Alma Floor Brushes



Made of stiff pure black horse hair, wire fastened. Red polished block, red polished handle.

A heavily filled brush that is particularly adapted for use on tile, marble, or smooth wood floors in hotels, offices, residences, etc.

Handles are included in the prices.

Length of stock, 2¾ inches.

Packed in individual cartons.

Length.....inches	16	18	24
Per Dozen.....	\$45.00	55.00	67.00
Weight, per Dozen.....pounds	33	36	43

Lucille Floor Sweeping Brushes



For sweeping comparatively smooth surfaces which do not necessitate a stiff penetrating brush. Used in stores, offices, hotels, etc.

Length of stock full 3 inches, staple set. Red polished block, two threaded handle holes. Selected mixed black horsehair.

Length of Block.....inches	14	16	18	24
Per Dozen.....	\$36.00	40.00	45.00	70.00
Weight per Dozen.....pounds	35	38	41	52

Chief Counter or Bench Brushes



Selected grey fibre, wire fastened. Plain finished block.

For general use in factories, machine shops, etc. The turned up end makes the brush accessible to corners, etc.

Length of stock, 2½ inches.

Packed 1 dozen in a carton.

Length of Brush Part.....inches	10
Weight, per Dozen.....pounds	8
Price.....per dozen	\$8.00

Major Lathe or Bench Brushes



An inexpensive, practical brush for general shop, bench, or lathe work.

Made of pure black horse hair, wire fastened. Natural varnished block.

Length of stock, 2¼ inches, staple set.

Packed 6 in a carton.

Length.....inches	8	9
Per Dozen.....	\$12.50	14.00
Weight per Dozen.....pounds	6	7

Ohio Counter Brushes



Selected stiff pure black horsehair, extra full, wire fastened. Natural polished block.

Size.....inches	9
Per Dozen.....	\$26.00
Length Stock.....inches	2¾
Weight, per Dozen.....pounds	9

Dick Floor Brushes



Stiff palmyra fiber; staple set; length of stock, 4 inches.

Natural polished block, 2 threaded handle holes. Heavy duty handle.

Length of Block.....inches	16	18	24
Per Dozen.....	\$27.00	29.00	36.00
Weight per Dozen.....pounds	45	50	62

Bill Oblong Window Brushes



Solid block, 8x2½ inches. Two handle holes. Length of stock, 2¼ inches, staple set. Natural polished block. Selected mixed, black horsehair.

Weight per dozen, 10 pounds.
Per Dozen..... \$13.00

Star Oblong Window Brushes



Pure black horsehair. Wire fastened. Red polished block. An excellent medium priced brush for home use. Solid block. Two handle holes. Packed 6 in a carton.

Size Block.....	inches	8 3/8 x 2 1/4
Star.....	per dozen	\$24.00.
Length Stock.....	inches	2 1/2
Weight, per Dozen.....	pounds	10

Tuscan Oblong Window Brushes



Solid blocks, 2 handle holes. Stiff pure black horsehair, wire fastened. Natural polished block. A well filled brush for general use. Packed in individual cartons.

Size Block.....	inches	8 1/2 x 2 1/2
Tuscan.....	per dozen	\$25.00
Length Stock.....	inches	2 1/4
Weight, per Dozen.....	pounds	13

Edward Oblong Window Brushes



Block specially treated to prevent warping, 2 handle holes. Mixed grey Russian bristle, wire fastened. Natural polished solid block 8x2½ inches, length stock, 3 inches. A heavily filled brush for professional use. Packed in individual cartons.

Edward.....per dozen \$80.00
Weight, per Dozen.....pounds 15

Joe Garage Floor Brushes



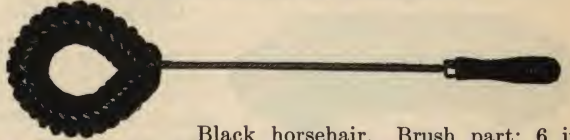
Bassine fiber, length stock 4 inches, made in 18 and 24-inch sizes. Natural varnished blocks and handles.
Each.....

No. 453 Radiator Brushes



Has plain handle. Brush part of black hair, 1 row; length stock, 2¼ inches; brush part, 9 in.; over all, 24 in.
No. 453.....each \$5.55

No. 460 Radiator Brushes



Black horsehair. Brush part: 6 in. long; 5½ in. wide; 1¾ in. diameter. Length overall, 23 in.
No. 460.....each \$.65

Warehouse or Stable Brooms

There is no sag, no wearing sidewise, no giving away in any part.

This warehouse and stable broom is as strong as its kind can be made.

It has a heavy wire band and three strong seams.



All Corn

No.....	6-A	6-B
Per Dozen.....	\$12.91	15.00
Weight per Dozen.....lbs.	36	42

Bamboo Mixed

No.....	6-C	6-D
Per Dozen.....	\$13.08	15.00
Weight per Dozen.....lbs.	36	42

Capital B Parlor Brooms



Made with 4 seams, velvet and spiral finish. Fancy parlor stemmed corn.

Brooms are packed 1 dozen to a bundle and covered with burlap.

Weight per dozen, 24 pounds.

Price.....per dozen \$12.50

Duz-Mor Bass Fibre Brooms



Stiff bass fibre center, fine bass fibre casing. Stock securely set in waterproof rubber cement. Will not work loose or pull out. The finished metal shield is bound through and through by steel rivets. The shield is painted blue and will not rust. Handle 5/8 inch in diameter, 44 inches long. Fibre 13 inches long, length clear of metal shield 10 inches. Face of broom 12 inches wide.

Packed 1 dozen in a carton.

Duz-Mor.....per dozen \$32.40

Goose Scrub Brushes

Has 5 rows of Ox fibre.

Block, 8 inches. Size face, 10x2 $\frac{3}{4}$ inches.

Packed 1 dozen to a shipping carton. Weight per gross, 96 pounds.

Price.....per dozen

Oxco Jersey Brewery and Dairy Brushes

Ox palmetto filling. Center trim, 1 $\frac{1}{8}$ inches. Wing trim, 1 $\frac{1}{8}$ inches. Face, 9x4 $\frac{1}{2}$ inches. Hardwood block, 6 $\frac{3}{4}$ x2 $\frac{1}{2}$ inches, tumbled in wax.

Packed 1 dozen to shipping container.

Ship. Wt., 8 Lb.....per dozen **\$6.38**

Oxco Guard Palmyra Deck Brushes

Length block, 10 inches. Trim, 1 $\frac{1}{8}$ inches.

Packed 1 dozen to shipping container.

Shipping weight per dozen, 16 lb.

Per Dozen..... **\$5.39**

No. 1211 Fibre Push Brooms

Solid hardwood block, 2 handle holes, wire fastened. Best quality Bass. Length stock, 6 $\frac{1}{4}$ inches. Size block, 16x3 $\frac{1}{2}$ inches. Five rows.

No. 1211.....per dozen **\$24.00**

Sweep of Broom.....inches 22

Weight, per Dozen.....pounds 42

Feather Dusters

Made of selected best quality tail feathers.

Trimmed with long reinforced and bound leatherette cuff embossed in silver.

Packed 6 to a box.

Shipping weight per dozen, approximately 13 pounds.

Professional Janitor

Made on a red lacquered block with 12-inch detachable handle to match.

Sizes, 12, 14, 16 and 18-inch.

High Grade Janitor

Wound on a special tapered head, and supported by a nickel plated ferrule. Has 12-inch detachable red lacquered handle.

Sizes, 14, 16, 18 and 20-inch.

Prices upon application.

Oxco Gong Dairy Brushes

Ox Palmetto filling, 2-inch trim. Size face, 5x4 $\frac{1}{2}$ inches. Block, 2 $\frac{1}{8}$ inches. Polished finish.

Packed 1 dozen to shipping container.

Length Block.....inches 8 12

Per Dozen..... **\$4.95 6.05**

Shipping Weight per Dozen.....pounds 8 10

No. 60 Oxco Bowl Brushes

Ox Palmetto filling securely wire wrapped on smooth finished 20-inch hardwood handle.

Brush, 4 $\frac{1}{2}$ inches long by 4 $\frac{1}{2}$ inches diameter.

Packed 1 dozen to shipping container.

Shipping weight per dozen, 11 pounds.

No. 60.....each **\$8.80**

No. 481 Sanitary Brushes

Brush part 6 $\frac{1}{2}$ inches long, 3 $\frac{1}{2}$ inches diameter. Length overall, 24 inches.

Grey tampico fiber; straight face; spiral wound. Hardwood handle.

Packed 1/2 dozen in carton. Weight per gross, 78 pounds.

No. 481.....per gross **\$90.00**

No. 484 Sanitary Brushes

Brush part 5 $\frac{1}{4}$ inches long, 4 inches wide, 1 $\frac{3}{4}$ inches diameter. Length overall, 21 $\frac{1}{2}$ inches.

White tampico fiber; twisted-in-wire brush part. Hardwood handle.

Packed 1 dozen in carton. Weight per gross, 66 pounds.

No. 484.....per gross **\$40.00**

No. 512 Cuspidor Brushes

Brush part 4 inches long, 3 $\frac{1}{2}$ inches diameter. Length overall, 16 $\frac{1}{2}$ inches.

Stiff palmetto fiber; straight face; spiral wound. Hardwood handle.

Shipped in bulk. Weight per gross, 66 pounds.

No. 512.....per gross **\$108.00**

Mono-Bilt Wire Wheel Brushes With Interchangeable Adapters



For cleaning, buffing and polishing. Made of specially drawn, thoroughly crimped wire intermingled into a brush of exceptional strength and durability. Complete all metal unit, assembled under heavy pressure, ready for mounting directly on shaft.

Compactly filled, solid brushing surface and accurately balanced to eliminate vibration.

Brushes are regularly made of No. 33 W. & M. gage wire, but coarser or finer wire can be furnished if desired.

When ordering, state size of arbor hole.

Packed in individual boxes. Prices include one pair of interchangeable adapters.

No.	101	102	103	105	3305
Each.....	\$11.25	9.30	5.40	4.50	3.00
Diameter.....in.	12	10	8	6	4
Thickness.....in.	2	2	1 3/8	1 3/8	1
Diam. Face Plates.....in.	5	5	4	4	2 1/4
W. & M. Gage Wire.....	33	33	33	33	33
Weight Each.....lb.	8	7	3 1/2	2 1/2	3/4

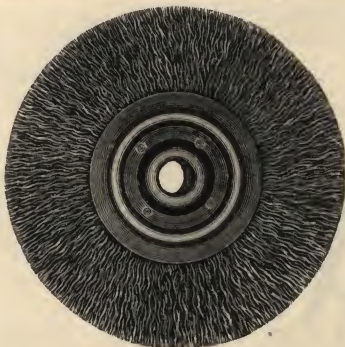
Interchangeable Adapters



Four-inch brushes require no adapters. Arbor hole sizes range from 1/4 to 1 inch, although 1/2 inch is generally popular. Six-inch and larger brushes have a standard 2-inch opening into which adapters, available in 1/2 to 1 1/2-inch arbor hole sizes, can be easily inserted.

Extra Adapters.....per pair \$.30

Milwaukee Steel Clad Wire Wheel Brushes



A low-priced, serviceable brush for general use in foundries, metal working plants, rubber mills, machine shops and garages.

Each section is a complete unit in itself ready to mount directly on spindle, thus providing a simple, convenient and economical method of building up a brush of any required width of face without the use of metal hubs.

When ordering, state size of arbor hole. Can be furnished with coarser or finer wire than specified, if desired.

Regularly made with the following standard sizes of arbor holes.

No.	Each	Diameter Brush In.	Approx. Width Face In.	Gage Wire W. & M.	DIAMETER, ARBOR HOLE, INCHES					
130	\$1.90	15	7 1/6	30, 33	1	1 1/4	1 1/2	1 3/4	2	
131	1.60	12	1 3/8	30, 33	3/4	1	1 1/4	1 1/2	1 3/4	
132	1.45	10	1 3/8	30, 33	3/4	1	1 1/4	1 1/2	1 3/4	
133	1.10	8	1 3/8	33, 36	1 1/2	3/4	1	1 1/4	1 1/2	
135	.90	6	3/8	33, 36	1 1/2	3/4	1	...	...
137	.75	4	3/8	33, 36	3/8	1/2	...	...	...
138	.65	3	3/8	33, 36	3/8	1/2	...	...	...

Fine Wire Polishing Wheel Brushes



Straight Wire

For platers and metal finishers.

Usually made of .004 wire.

When ordering, specify steel or brass wire, and size of arbor hole.

No.	2303	2404	2604
Each.....	\$1.50	2.55	4.95
Diameter Brush.....inches	3	4	6
No. Rows.....	3	4	4
Diameter Hub.....inches	1	1 1/2	3
Weight per Dozen.....pounds	2 1/4	6	16

Power Operated Small Cup Brushes



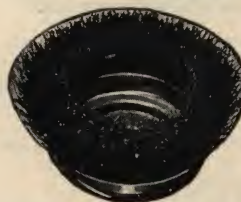
Crimped steel wire rigidly secured in cup shaped metal back. Arbor hole sizes range from 3/8 to 3/4 inches.

No.	3330	3331
Each.....	\$2.40	2.70
Diameter of Brushing Surface.....inches	3 1/2	2 3/4
Size of Wire.....inches	.018	.011
Weight.....pounds	1	1/2

Also made of coarser or finer wire than listed.

Sturdi-Bilt Steel Wire Cup Brushes

For Cleaning and Buffing



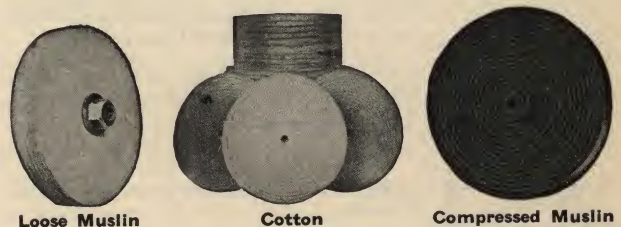
Used on pneumatic tools and portable equipment for heavy duty work, such as removing old paint, rust, etc. from large metal, brick or concrete surfaces. Made of crimped steel wire securely held in a cup-shaped all metal holder or back.

The 6 1/4-inch diameter brush furnished with arbor holes ranging from 1/2 to 1 1/4-inches, the 4 1/2-inch dia. from 3/8 to 1 inch.

No.	3335	3336	3337	3338	3340	3341	3342	3343
Each.....	\$6.30	6.75	7.05	7.50	4.20	4.35	4.50	4.80
Approx. Diam...in.	6 1/4	6 1/4	6 1/4	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2
Size of Wire.....	.032	.023	.018	.014	.023	.018	.014	.011
Length Wire.....in.	1 5/8	1 5/8	1 5/8	1 5/8	1 1/2	1 1/2	1 1/2	1 1/2
Weight Each...lbs.	2 3/4	2 3/4	2 3/4	2 3/4	1 1/4	1 1/4	1 1/4	1 1/4

Can be made of coarser or finer wire if desired.

Buffing Wheels



A full line of buffing wheels in cotton, canvas, muslin or compound, in sizes from 6 to 24 inches in diameter, can be furnished.

In ordering give material, diameter, number of plies and number of sections wanted.

Berg Rex Standard Ladders

Constructed for the home.

Has extra wide step heavy enough to withstand ordinary use. Full rodded galvanized head at top.

Brace securely fastened with galvanized iron clip on back.

Pail handle spreader.

Lengths, 3 to 12 feet.

Weight, approximately 2½ pounds per foot.

3 to 10 Feet.....	per foot	\$.80
12 Feet.....	per foot	.90

Berg Sterling Ladders

For home or factory use.

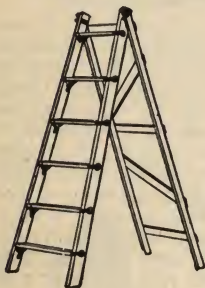
Has malleable iron brackets on head piece; reinforced under each step with steel rod; truss blocked; galvanized corner brackets; back braces securely fastened with steel straps; pail handle spreader.

Built to conform with A.S.A. specifications.

Lengths, 3 to 18 feet.

Weight, approximately 3 pounds per foot.

3 to 10 Feet.....	per foot	\$1.10
12 to 14 Feet.....	per foot	1.30
16 to 18 Feet.....	per foot	2.00

Berg Sturdy Electricians' Ladders

For electricians and plumbers.

Stiles are clear Norway pine reinforced with steel rod and corner braces under each step; metal covered braces on legs.

Built to conform with A.S.A. specifications.

Lengths, 4 to 22 feet.

Weight, approximately 3 pounds per foot.

3 to 12 Feet.....	per foot	\$1.87
14 to 16 Feet.....	per foot	2.12
18 to 20 Feet.....	per foot	2.50
22 Feet.....	per foot	3.70

Berg Rung-Back Mechanics' Ladders

For plumbers and steam-fitters. May be used by two men at the same time.

Flat steps on front; rungs on back. Each step and rung reinforced with steel rods.

Made of clear Norway pine.

Built to conform with A.S.A. specifications.

Lengths, 6 to 24 feet.

Weight, approximately, 5 pounds per foot.

6 to 16 Feet.....	per foot	\$2.25
18 to 24 Feet.....	per foot	3.70

Berg Safety Platform Ladders

For mechanics. Large strong platform gives ample standing room.

Steps braced with rods and galvanized corner braces; rungs braced with metal braces. Side spreader is standard equipment on ladders 8 feet and over.

Built to conform with A.S.A. specifications.

Lengths, 4 to 18 feet.

Weight, approximately 5 pounds per foot.

4 Feet to Platform.....	each	\$15.00
5 Feet to Platform.....	each	17.50
6 Feet to Platform.....	each	18.75
7 Feet to Platform.....	each	22.50
8 Feet to Platform.....	each	25.00
10 Feet to Platform.....	each	33.75
12 Feet to Platform.....	each	45.00
14 Feet to Platform.....	each	52.50
16 Feet to Platform.....	each	60.00
18 Feet to Platform.....	each	70.00

**Berg Trestles**

Sides made from very best lumber, rungs from second growth hickory.

An improved hinge at top makes trestles stand solid and wear long, relieves all pressure at top.

Lengths, 6 to 16 feet.

Weight, approximately 3¾ pounds per foot.

6 to 12 Feet.....	per foot	\$1.37
14 to 16 Feet.....	per foot	1.50

Berg Extension Trestles

Can be raised or lowered at will when trestles are open. Easy and quick to operate.

Size Feet	Each	Extended Feet	Weight Pounds
6	\$18.50	10	48
8	24.50	14	64
10	30.50	18	80
12	35.50	22	96
14	41.00	24	102
16	52.50	26	120

Berg Extension Planks

Made from clear Norway pine. Have rounded edges and are secured with two bolts at each end.

Size.....	feet	6	7	8	10
Each.....		\$6.50	7.00	8.50	12.20
Extending to.....	feet	11	12½	14½	18
Weight.....	pounds	20	23	28	32

**Berg Swing Stages**

Stages over 16 feet bound with steel cable in accordance with rules of State Labor Department; shorter lengths reinforced when specified.

Length.....	feet	6 to 16	18 to 20	22 to 24	26 to 30
20 In. Wide.....	per ft.	\$1.30	\$1.50	\$1.62	On Ap.
24 In. Wide.....	per ft.	1.42	1.62	1.75	On Ap.
Guard Rail, 25 cents per foot.					

Painters' Drop Cloths



Size.....	feet	9x12	12x15	14x16
Weight.....	pounds	7	12	14
Cloths.....	each			

Berg Ladders

Shafting

For factory use where shafting has to be reached.
Provided with hooks and spurs.
Lengths, 8 to 20 feet.
Weight, approximately 2½ pounds per foot.
8 to 20 Feet.....per foot \$.75

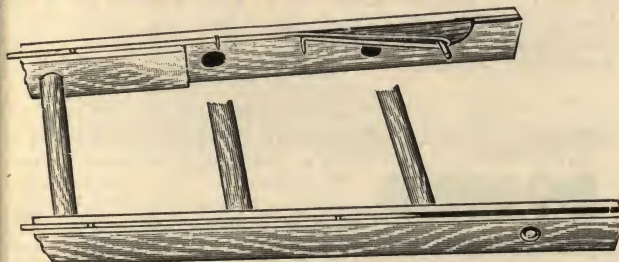
Straight or Farm

Spurs and rods furnished when specified.
Lengths, 6 to 30 feet.
Weight, approximately 2½ pounds per foot.
6 to 20 Feet.....per foot \$.52½
22 to 24 Feet.....per foot .62
Price upon application for 26 to 30 feet.

Fruit Pickers

For fruit picking and tree pruning.
Lengths, 6 to 20 feet.
Weight, approximately 2½ pounds per foot.
6 to 20 Feet.....per foot \$.54

Blue Ribbon Common Extension Ladders



Wire Truss Construction



GOING UP

LOCKED

GOING DOWN

Automatic Lock

The common extension ladder is equipped with extra heavy hooks, insuring safety at a point where the ordinary ladder is most unsafe.

Ladders up to 22-foot sections have wire brace construction.

Stock used is carefully selected from straight grained, light weight fir, every round used being of clear, tough hickory.

Weight per foot, 2 pounds.

2-Section Ladders

20 to 44-Foot Ladder.....	per foot	\$.62
With Rope and Pulley Attachments.....	per foot	.65

3-Section Ladders

36 to 64-Foot Ladder.....	per foot	\$.80
With Rope and Pulley Attachments.....	per foot	.86



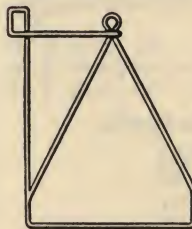
Steel Cornice Hooks

Berg Steel Cornice Hooks

Can be furnished with ring.

Stock sizes, 16 and 20 inch opening.
Special sizes made to order.

Per pair..... \$12.50



Steel StIRRUPs

Steel StIRRUPs

With guard rail attachment.

Stock sizes, 24 and 30 inch opening.

Per pair..... \$12.50

Painters' Falls

We carry a complete line of blocks, falls, ropes and guy lines.

Rope sizes, 5/8, 3/4 and 7/8 inch.

Further information upon request.

Ironorse Metal Joints



For making saw horses or trestles any height, any length, for temporary or permanent use. Fits standard size 2x4 finished lumber.

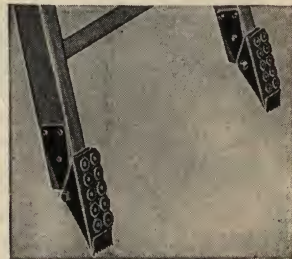
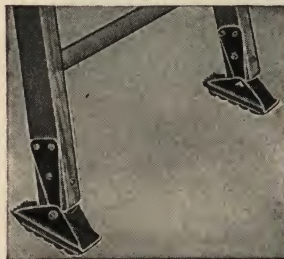
Made of steel; rust-proof aluminum finish. Will not split and is not affected by changes in temperature. Fool proof construction prevents slipping or loosening.

Packed, set of four in a carton.

Weight per carton, 6 pounds.

Set of Four..... \$2.95

Duo-Safety Ladder Shoes



Ladders cannot slip, creep or skid when equipped with Duo-Safety Ladder Shoes. The injuries caused by ladders slipping can be eliminated almost entirely by equipping them with suitable safety shoes. These shoes will fit practically any size ladder rail. They can be used both indoors and outdoors by merely flipping the shoe from the horizontal to the vertical position.

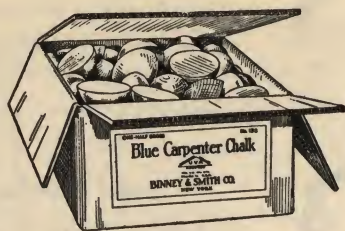
Gripping and vacuum properties make it adaptable for most surfaces. Can easily be attached to the side rails.

All metal parts of these shoes are cadmium plated to insure them against rusting.

Sharp spike toe is made of case hardened steel. Vacuum pad sole made of pure gum rubber; 10 square inches of suction-gripping area to the sole. Worn out pads can be quickly and economically replaced on old shoe bodies by simply knocking out the rivets and inserting new pads.

Per Pair..... \$2.50

Carpenters' Chalk



For marking chalk line, patterns, etc.

Packed 72 pieces in a corrugated box; 5 gross in a carton. Weight per carton, 60 pounds.

No. 130, White.....	per gross	\$2.00
No. 131, Red.....	per gross	2.50
No. 132, Blue.....	per gross	2.50

UVA Brand Railroad Crayons



Made for a wide variety of uses, ranging from marking box cars to chalking work on lay-out tables for drill presses and other machine shop operations.

The crayons are 4 inches long and 1 inch in diameter.

Furnished in white, blue, red, yellow and green with a yellow enamel coating if desired. One gross in a box, 5 gross in a case. Shipping weight, 70 pounds per case.

White.....	per case	\$9.00
Colored.....	per case	11.00

Metal Workers' Crayons



Dimensions Inches	Price per Gross	Dimensions Inches	Price per Gross
1/4 Round x 5	\$3.00	3/16x1/2x5	\$2.20
1/4x1/4x5	1.80		

Dixon Lumber Crayons



Length, 4 1/2 inches; diameter, 1/2 inch; hexagon shape.

The mark of No. 525 aluminum crayon shows brilliantly on dark surfaces. Shows up well in poor light. Weatherproof.

Packed 12 in box; 6 boxes in carton; wt. carton, 6 lbs.

No.	Per Gross	Color	Grade
361	\$8.00	Black (Graphite)	Medium
362	8.00	Black (Graphite)	Hard
365	8.00	Black (Graphite)	Very Soft
365 1/2	8.00	Black (Graphite)	Soft
485-S	48.00	Purple (Indelible)	Soft
485-H	48.00	Purple (Indelible)	Hard
492	14.40	Pink	Regular
493	14.40	Purple	Regular
494	14.40	Carbon Black	Regular
495	14.40	Brown	Regular
496	14.40	Yellow	Regular
497	14.40	Terra Cotta	Regular
520	14.40	Red	Regular
520 1/2	14.40	Red	Soft
521	14.40	Blue	Regular
521 1/2	14.40	Blue	Soft
522	14.40	Green	Regular
523	14.40	White	Regular
525	14.40	Aluminum	Regular

No. 6 Box Scrapers



Made of steel with polished finish bevels.

Walnut finish hardwood handles; length, 7 1/2 inches. Width of cutting edge, 2 3/4 inches.

Length over all, 12 inches. Weight per dozen, 8 1/2 pounds.

No. 6.....	each	\$.83
Extra Blades.....	each	.53

No. 3002 Self-Tightening Box Strapping

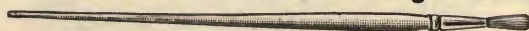


Each coil contains 300 feet of strapping. Japanned finish.

Packed 20 coils in a case.

Width.....inches	1/2	5/8	3/4	7/8	1
No. 3002, per coil	.....	.....	.....	.....	.....
Weight per Coil	.....	.....	.....	.....	.....
.....pounds	7 1/2	9 1/2	11 1/2	13 1/2	15 1/2

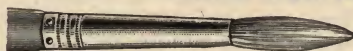
No. 1-35 Round Bristle Marking Brushes



White bristle stock; round tin ferrule; long, round, plain cedar handle. Packed one dozen in a bundle.

Size No.	1	2	3	4	5	6
No. 1-35.....per doz.	\$.95	1.10	1.30	1.60	1.90	2.20
Diameter.....in.	1/32	5/32	7/32	15/64	8/32	9/32
Stock Out.....in.	1/2	5/8	3/4	7/8	1	1 1/8
Weight per Dozen.oz.	2	2 1/2	3	4	4 1/2	5

No. 5-37 Camel Hair Marking Brushes



Camel hair stock; round tin ferrule; long round natural polished

handle. Packed one dozen in a bundle.

Size No.	1	2	3	4	5	6
No. 5-37.....per doz.	\$2.80	3.15	3.50	4.00	4.65	5.20
Diameter.....in.	5/32	7/32	8/32	17/64	9/32	11/32
Stock Out.....in.	3/4	13/16	15/16	7/8	15/16	1 1/8
Weight per Dozen.oz.	3	3 1/2	4	4 1/2	5	7

Model 3A Ideal Fountain Stencil Brushes



For use in the shipping room. Warranted to give satisfaction.

Ink is held in handle of brush.

A slight turn of the wrist will adjust the flow of ink as needed. Bristle tips can be replaced as they become worn down. Shipping weight, 1 pound.

Model 3A.....	each	\$3.50
Extra Tips, Model 3A, 1 1/2-In. Diam. Ferrule....	each	1.10

No. 77-7 Stencil Plate Brushes



Black Chinese bristle stock; solid nickel-plated ferrule; turned polished handle. Vulcanized in rubber.

Packed 1 dozen in a box.

No.	Diameter Inches	Length Stock Inches	Weight Pounds per Dozen	Price per Dozen
2	5/8	1 1/16	3/4	\$6.00
4	7/8	1 1/8	1 1/8	6.50
6	1 1/8	1 1/8	1 3/4	7.50
8	1 1/4	1 3/8	2 5/8	9.50
10	1 1/2	1 1/2	3 1/2	13.50
12	1 3/4	1 5/8	4 1/4	16.50

Millers Falls Steel Letters and Figures Machine Made—Roman Face



Letters

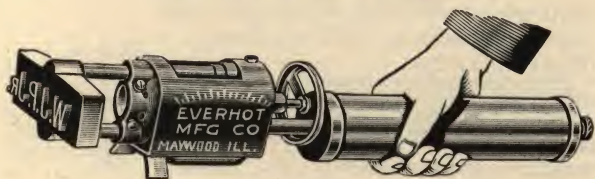
sizes $\frac{5}{16}$ through $\frac{1}{2}$ -inch consists of 27 characters, the period being omitted.

Sets of figures consists of nine characters from 0 to 8, the 6 is used for the 9.

Each set is packed in a nicely finished wood box.

Height Character Inches	Size Stock Inches	No. 1500 Letters per Set	No. 1550 Figures per Set	Single Characters Each
$\frac{1}{32}$	$\frac{1}{16} \times 2\frac{3}{8}$	\$7.50	\$2.50	\$.35
$\frac{1}{24}$	$\frac{1}{16} \times 2\frac{3}{8}$	7.50	2.50	.35
$\frac{1}{20}$	$\frac{1}{16} \times 2\frac{3}{8}$	6.00	2.00	.30
$\frac{1}{16}$	$\frac{1}{16} \times 2\frac{3}{8}$	4.50	1.50	.25
$\frac{1}{12}$	$\frac{1}{16} \times 2\frac{3}{8}$	4.50	1.50	.25
$\frac{3}{32}$	$\frac{1}{16} \times 2\frac{3}{8}$	4.50	1.50	.25
$\frac{1}{10}$	$\frac{1}{16} \times 2\frac{3}{8}$	4.50	1.50	.25
$\frac{1}{8}$	$\frac{1}{16} \times 2\frac{3}{8}$	4.50	1.50	.25
$\frac{5}{32}$	$\frac{3}{16} \times 2\frac{1}{2}$	5.25	1.75	.30
$\frac{3}{16}$	$\frac{3}{16} \times 2\frac{1}{2}$	6.00	2.00	.30
$\frac{7}{32}$	$\frac{3}{16} \times 2\frac{1}{2}$	6.75	2.25	.35
$\frac{1}{4}$	$\frac{3}{16} \times 2\frac{1}{2}$	7.50	2.50	.35
$\frac{9}{16}$	$\frac{1}{16} \times 2\frac{3}{4}$	9.00	3.00	.40
$\frac{3}{8}$	$\frac{1}{2} \times 2\frac{3}{4}$	10.50	3.50	.50
$\frac{7}{16}$	$\frac{1}{2} \times 2\frac{3}{4}$	12.75	4.25	.55
$\frac{1}{2}$	$\frac{5}{8} \times 3$	14.25	4.75	.65

Everhot Branding Tools



This tool is made in sizes from small single burner types up to large 3-burner types with $\frac{1}{2}$ -gallon fuel tanks.

The 3-burner type Everhot will heat a large brand just as rapidly as the small 1-burner type will heat a small brand.

Holder No. 1 will hold five 1-inch characters, seven $\frac{3}{4}$ -inch characters or eight $\frac{1}{2}$ -inch characters.

Holder No. 2 will hold three 2-inch characters or four $1\frac{1}{2}$ -inch characters.

Holder No. 3 holds twenty-four 1-inch characters, twenty-seven $\frac{3}{4}$ -inch characters or thirty $\frac{1}{2}$ -inch characters.

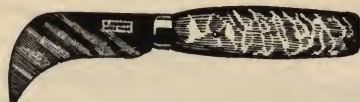
Holder No. 4 is a 2-line holder. It will hold thirty-eight 1-inch, forty-two $\frac{3}{4}$ -inch or fifty $\frac{1}{2}$ -inch characters.

Individually mounted numerals and letters are made in $\frac{1}{2}$, $\frac{3}{4}$ and 1-inch sizes at \$1.25 each; and $1\frac{1}{2}$ and 2-inch sizes priced at \$1.50 each.

All torches will handle brands of special design, made to order.

No.	10	20	30	93
Torch.....each	\$10.00	\$11.00	\$12.75	\$32.50
No. 1 Holder.....each	5.00	5.00	5.00	.....
No. 2 Holder.....each	6.00	6.00	6.00	.....
No. 3 Holder.....each	.....	.....	.....	15.00
Capacity.....pints	$\frac{1}{2}$	$\frac{3}{4}$	1	8

Oil Cloth and Pruning Knives



Fibre finish handle, riveted.

No. 1, with 3-inch Blade.....per dozen \$4.50
No. 2, with $3\frac{3}{8}$ -inch Blade.....per dozen 6.75

No. 0 Roofing Knives



Famous for cutting qualities and durability. Has 2-inch blade.

Packed one dozen in box.

Weight per dozen, $1\frac{1}{2}$ pounds.

No. 0.....per dozen \$3.75

Square Point Trimmers' Knives



Forged steel blade. Closed ferrule. Polished burnt handle, riveted.

Size No.....	1	2	3	4	5
Per Dozen.....	\$3.00	3.00	3.00	3.75	4.00
Length Blade.....inches	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$

Murphy Rubber Knives



Best crucible steel blade. Fibre finished handle riveted. Available in 3 different styles: Square point, sharp point and curved edges.

Packed one dozen in a box.

No.	5	6	7
Per Dozen.....	\$4.50	6.75	7.50
Length of Blades.....in.	4	5	6
Weight per Dozen.....lbs.	2	$2\frac{1}{2}$	3

Sloyd Knives



Closed ferrule.

Rubberoid handle, riveted.

Size No.	Length Blade, In.	Price per Doz.	Size No.	Length Blade, In.	Price per Doz.
0	$1\frac{3}{4}$	\$4.50	$1\frac{1}{2}$	3	\$5.50
1	$2\frac{5}{8}$	5.00	2	$3\frac{1}{4}$	5.50

Pattern Makers' and Shirt Cutters' Blades



Weight, one pound per dozen.

No. 0, $\frac{1}{2}$ In. Wide, 6 In. Long.....per dozen \$2.80
No. 1, $\frac{1}{2}$ In. Wide, 8 In. Long.....per dozen 3.00
No. 2, $\frac{5}{8}$ In. Wide, 9 In. Long.....per dozen 3.75

Pattern Makers' and Shirt Cutters' Handles

No. 1 is for blades $\frac{1}{2}$ inch wide. Weight, $2\frac{1}{2}$ pounds per dozen.

No. 2 is for blades $\frac{5}{8}$ inch wide. Weight, 3 pounds per dozen.

No. 1, $4\frac{1}{8}$ Inches Long.....per dozen \$18.00
No. 2, $4\frac{3}{8}$ Inches Long.....per dozen 20.00



Wiss Bent Trimmers



For use by professional cloth cutters, dressmakers, etc. Handles are so bent that cloth or other material can be cut lying flat on the table.

Trimmers 9½ inches or over are made with two sharp points; smaller sizes, with one sharp and one blunt point.

Made with crucible steel inlaid blades. Nine-inch size and larger are fitted with special steel screw and nut.

Full Length Inches	FULL NICKEL PLATED		JAPANNED HANDLES		Length Cut Inches	Weight, Pounds per Doz.
	No.	Each	No.	Each		
6	126	\$1.50	26	\$1.30	2½	2
6½	126½	1.65	26½	1.40	2¾	2½
7	127	1.75	27	1.50	3⅛	3
7½	127½	1.80	27½	1.55	3⅜	3½
8	128	1.90	28	1.60	3¾	4½
8½	128½	2.10	28½	1.70	4	5¼
9	129	2.40	29	2.00	4¼	6¾
..	.....	....	29½	2.40	4¼	8½
10	120	3.00	20	2.60	5	9¼
11	.....	....	21	2.90	5⅝	10¾
12	.....	....	22	3.20	6¼	14½
13	.....	....	23	3.80	6¾	18¾

For Use with Left Hand

Full Length Inches	JAPANNED HANDLES		Length Cut Inches	Weight, Pounds per Doz.
	No.	Each		
10	20L.H.	\$2.85	4¾	9
11	21L.H.	3.10	5½	9½

Bent Trimmers



Heavy Pattern. Raised blade, nicked, with japanned handles. Packed six in a box.

No.	Full Length Inches	Length of Cut, Inches	Each
20W	10	4⅞	\$2.75
21W	11	5⅝	3.25
22W	12	6	3.75

Fitted with steel screw and nut at a small additional cost.

Wiss Carpet or Upholsterers' Shears



Crucible steel inlaid blades.
Fitted with steel screw and nut.
Japanned handles; polished blades.

No.	2I.S.	3I.S.	4I.S.	5I.S.
Each	\$3.75	4.25	4.75	5.25
Length Over All	10½ in.	11¼	12	12½
Length of Cut	5 in.	5½	6¼	6½
Average Wt. Each	1⅜ lbs.	1½	1⅞	1¾

Wiss Straight Trimmers



Trimmers ten inches or over are made with two sharp points; smaller sizes, with one sharp and one blunt point.

Made with crucible steel inlaid blades. Nine-inch size and larger are fitted with special steel screw and nut.

Full Length Inches	FULL NICKEL PLATED		JAPANNED HANDLES		Length Cut Inches	Weight, Pounds per Doz.
	No.	Each	No.	Each		
5½	135½	\$1.40	35½	\$1.20	2½	1¾
6	136	1.50	36	1.25	2¾	2
6½	136½	1.55	36½	1.30	3	2⅝
7	137	1.65	37	1.40	3¼	3
7½	137½	1.75	37½	1.50	3½	3½
8	138	1.80	38	1.55	3⅞	4¼
8½	138½	2.00	38½	1.65	4	4⅞
9	139	2.25	39	1.95	4¼	6
10	130	3.00	30	2.40	5	9
12	32	3.10	6⅞	14¾

For Use with Left Hand

7½	137½L.H. \$1.90	37½L.H. \$1.60	3½	3½
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Wiss Leather or Belt Shears



With one serrated edge and one knife edge.

Japanned handles and polished blades.

Packed 6 in a box.

Full Length	..... inches	8	9
Per Dozen	.....	\$26.40	33.20
Length of Cut	..... inches	2¾	3
Average Weight per Dozen	..... pounds	7⅞	11¼

No. 1075E Wiss Electricians' Scissors

Fully nickel-plated or natural finish.

Full length, 5 inches. Length of cut, 1⅞ inches.

Wt. per doz., 2 lbs.

No. 1075E ea. \$1.00



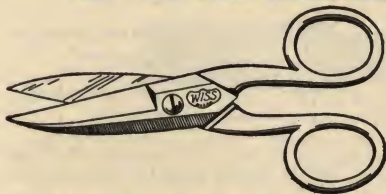
No. 175E Wiss Electricians' Scissors

Full length, 5 inches. Length of cut, 1⅞ inches.

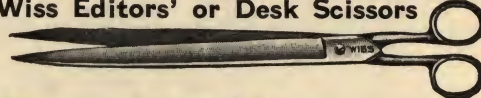
Packed 6 in a box.

Weight per dozen, 1⅞ pounds.

No. 175E ea. \$1.25



Wiss Editors' or Desk Scissors



Fully Nickel-Plated		Japanned Handles Nicked Blades		Length In.	Length Cut In.	Wt. Lbs. per Doz.
No.	Each	No.	Each			
198	\$1.85	98	\$1.50	8	5	2¼
199	1.95	99	1.75	9	5¾	2½
190L	2.20	90L	2.00	10	6¾	2¾

No. 9127 Lamson & Goodnow Putty Knives



Cocobolo handle, metal bolster, 3 brass lock rivets.

Packed 12 in a box.

Weight per dozen, 2 pounds.

Blade Width.....inches	1¼	1½	2
No. 9127, Stiff.....per dozen	\$4.25	\$4.90	\$5.40
No. 9127, Elastic.....per dozen	4.60	5.30	5.95

No. 9127 Lamson & Goodnow Mohawk Scrapers



Polished steel blade; cocobolo handle; metal bolster; 3 brass pins. Width of blade at point 2½, 3 and 3½ inches. Packed 6 in a box.

Size.....inches	2½	3	3½
Stiff.....per dozen	\$7.25	\$7.75	\$8.65
Elastic.....per dozen	7.85	8.40	9.35
Approximate Weight per Dozen.....lbs.	3	3½	3¾

No. 927 Putty Knives



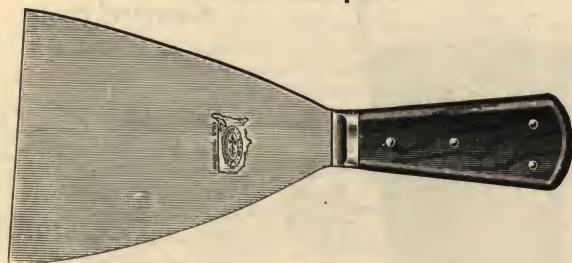
Cocobolo wood handle, metal bolster. 3 steel pins. Packed 12 in a box.

Blade Width.....inches	1¾	2
No. 927.....per dozen	\$5.30	\$6.20
Weight, Per Dozen.....pounds	2¼	2½

With Elastic Blade

Blade Width.....inches	1¾	2
No. 927, With Elastic Blade.....per dozen	\$5.65	\$6.95
Weight, Per Dozen.....pounds	2¼	2½

No. 927 Scrapers



Cocobolo handle, metal bolster, steel pins. Packed 6 in a box.

Blade Width at Point.....inches	2½	3	3½	4
Weight, per Dozen.....pounds	3¼	3½	4	4½
No. 927.....per dozen	\$7.60	8.25	8.85	9.75
No. 927, Elastic Blade...per dozen	\$8.35	9.00	9.60	10.50

No. 125 Bridgeport P-B Scrapers



For removing old paint and wall scraping, also used extensively by bakers for cleaning pans, etc. Fitted with rust-proof screws, an exclusive feature. It can consequently be kept clean and sanitary by washing without rusting out the screws.

Blade is made of roll tempered steel. Beech handle, natural finish. Made in two widths of blade, 3½ and 4 inches.

Two gross in case; weight, 120 pounds.

Price, No. 125.....per gross \$18.00

No. 9003 Lamson & Goodnow Carbon Steel Spatulas



Cocobolo handle, no bolster, 3 brass lock rivets.

Size Blade Inches	Regular Blade per Doz.	Half or Full Baker's Blade Per Doz.	No. in Box	Wt. Lb. per Doz.
3x 9/16	\$4.00	.....	12	1
4x 10/16	4.20	.....	12	1¼
5x 13/16	4.80	.....	12	1½
6x 15/16	5.25	\$6.55	12	1¾
7x 12/16	5.90	7.90	12	2
8x 14/16	7.80	10.35	6	2½
9x 17/16	10.00	12.70	6	2¾
10x 110/16	12.25	15.25	6	3
12x 112/16	18.90	23.20	6	4
14x 114/16	25.55	28.75	6	4½

No. 900 Ink Knives



Genuine Cocobolo handle secured to tang of blade with three brass pins.

Packed 6 in a box.

Length of Blade.....in.	6	8	10
Wt., per Dozen.....lbs.	4	5	6
No. 900.....doz.	\$15.00	24.00	30.00

No. 024 Red Devil Glass Cutters



For sheet and general glass cutting. Wheels are made by precision machines which shape the edges under pressure before being ground and honed. Cutter is pre-greased.

Packed 12 in a display box; 5 gross in a case.

Weight per case, 50 pounds.

No. 024.....each \$2.00

No. 50 Trojan Selfoiler Glass Cutters



Has a piece of felt immediately back of and playing on the wheel, which when dipped in light oil or kerosene lubricates more uniformly the axle and cutting edge.

Packed individually, 1 dozen to a display container.

No. 50.....per dozen \$3.00

Witt Garbage Pails



The body is of one piece, lock seamed, deeply corrugated. Stout bail handles are formed to lock the cover on when the handle is in the carrying position. One piece, electrically welded bands, spot welded and riveted on at top and bottom. Bottoms are slightly concave to give maximum strength. Lids fit snugly and retain their shape. Hot-dip galvanized after entirely completed in black; water-tight.

Steel in body is 24 gage; in bottom and lid, 23 gage.

No.	With Cover, Ea.	Without Cover, Ea.	Covers Each	Diam. In.	Ht. In.	Cap. Gals.	Wt. Lbs.
7	\$2.30	\$1.80	\$.50	11½	12¾	5	9
8	2.60	2.00	.60	13½	12¾	6¾	10
9	3.00	2.30	.70	14½	12¾	8¼	11½
9½	3.30	2.70	.60	13½	18½	10	12

Witt Ash and Refuse Cans



Made from special analysis steel. The body is of one piece, lock seamed and electrically welded. One of the side handles is placed near the side seam to prevent it from being struck when emptying.

Corrugations are deep, well-rounded and closely pitched.

Heavy, one-piece, solid beaded steel bands riveted at top and bottom take all the wear.

Hot-dip galvanized after entirely assembled in black.

No. 10 made of 23-gage steel throughout. Other sizes, 23-gage

steel in sides and 21-gage in bottoms.

No.	10	1	2	3
With Covers.....each	\$3.70	\$5.80	\$6.50	\$7.20
Without Covers.....each	3.00	5.00	5.60	6.20
Covers Only.....each	.70	.80	.90	1.00
Diameter.....inches	14½	16	18¼	20¾
Height.....inches	18½	26	26	26
Capacity.....gallons	12¼	20	27	33
Weight.....pounds	14½	27½	32	36½

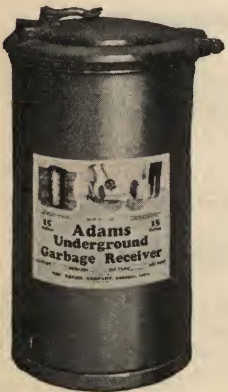
Adams Underground Garbage Receivers

Complete receiver consists of a galvanized inner can with bail handle, copper alloy steel outer shell, and cast iron cover painted green. Malleable iron hinges; brass hinge pins.

Inside can is easily removed.

Lid opens when a slight pressure is applied on foot lever.

Packed 1 in a carton.



No.	Receiver Complete Each	Inner Can Only Each	Cap. Gal.
8	\$12.00	\$3.75	8
12	13.00	4.30	12
15	14.00	5.00	15
20	19.00	6.90	20
25	23.00	8.10	25

No.	DIAM. In. Shell	DIAM. In. Inside Can	DEPTH In. Shell	DEPTH In. Inside Can	Wt. Lb. Comp.
8	15¼	14¼	15	13	53
12	15¼	14¼	21	19¼	60
15	15¼	14¼	26	24	68
20	19	16½	27	25	80
25	19	16½	30½	28	86

Nesco Galvanized Garbage Pails



Made of hot dipped galvanized steel.

Has corrugated body and deep seamless cover.

Wire bail shaped to securely lock cover.

Nestable.

Packed 6 in a bundle.

No.	Per Doz.	Trade Diam., In. Cap. Gal.	Bot-Tom In.	Ht. In.	Wt. Lb. per Bdl.
000	\$10.50	3 10½	9¾	9¼	19¼
00	11.90	4 12	11	10½	23¾
02	14.25	6 12¾	11¾	12¾	28½
03	16.50	8 14	13	14¾	36¾
04	18.20	10 14	13	16¾	38¾

Nesco Garbage or Ash Cans



Heavy corrugated body, hot dipped galvanized.

Heavy dome type bottom, heavy wired top, extra deep covers, high offset at bottom, and straight sides.

No.....	118	123
Per Dozen.....	\$33.60	40.25
Capacity,gallons	19	23
Size.....inches	16¾x23¼	18¾x23¼
Weight..pounds	11¼	13½

Savory Super-Bilt Ash Cans



Hot galvanized, leak-proof. Extra heavy, corrugated body. Deep chime bottom with convex stiffening panel, double-seamed to body. Specially formed steel bottom hoop ¼x2 inches. ¾-inch rod handles, attached with riveted clips. Top reinforced with ½-inch butt-welded, steel tube. Seamless inset cover, rain, fly, and dog-proof.

Cat. No.	Each Without Cover	Each With Cover	In-side Diam. In.	Ht. In.	Cap. Gals.	Wt. Lbs. Each Cover
1618	\$4.80	\$5.40	16	26	20	27
1820	5.50	6.30	18	26	26	32
2022	6.60	7.50	20	26	32	37

Hercules Galvanized Cement Pails



Hot dipped galvanized.

Size, 12½x10½ inches. Capacity, 14 quarts.

Extra heavy top wire; extra long, free-swinging bail, ¾-inch; and extra strong steel ears. Nos. 14 and 540 without hoops; No. 140 with heavy wide top hoop riveted under top bead.

Double braced bottom;

extra deep foot; riveted cross pieces.			
No.....	540	14	140
Per Dozen.....	\$16.65	22.20	27.15
No. in Bundle.....	12	12	12
Weight per Bundle.....pounds	57	83¼	107

Galvanized Water Pails

This pail is made of heavy grade steel and well galvanized.

It has riveted ears and heavy wire bail.

The body of the pail is swedged.

Has dome type, extra strong bottom.

Packed in bundles of 1 dozen each.



No.	Per Dozen	Cap. Qts.	Size Inches	Wt. Lb. Bdl.
1082	\$4.50	8	9 1/2 x 8 1/2	21
1102	4.80	10	10 1/2 x 8 7/8	23
1122	5.25	12	10 3/4 x 9 3/4	25
1142	5.85	14	11 1/2 x 10 7/8	29
1162	6.80	16	12 x 11	31

Hercules Extra Heavy Galvanized Water Pails

These pails are made of heavy steel and after construction are hot-dipped galvanized both inside and outside, which closes all crevices against rust. Deep foot.

The ears are securely attached and the bail is made of heavy wire.

Packed in bundles of 12 each.



No.	Per Dozen	Trade Cap. Qts.	Size Inches	Wt. per Bundle Lbs.
1510	\$11.10	10	10 3/4 x 9 7/16	40 1/4
1512	11.75	13	12 x 9 7/8	42 3/4
1514	12.35	15	12 5/8 x 10 1/2	48
1516	14.20	16	12 1/2 x 11 3/4	51
1520	16.05	20	12 3/4 x 12 3/4	56 1/2

No. 2 Electric Hoop White Cedar Pails

3 Hoop

Made of selected seasoned first quality Virginia white cedar. Cedar pails are clean and sanitary.

Inside top diameter, 10 1/8 inches; inside bottom diameter, 8 3/8 inches; inside depth, 7 1/8 inches; capacity, 10 quarts.

Packed 6 to the package, tied down with strings and wrapped in paper.

Weight, per dozen, 30 pounds.



Price, No. 2.....per dozen \$10.50

J. I. C. Wooden Horse Pails

The strap-ear runs down side of bucket and is so constructed that it fits over hoops and laps under the stave at bottom. Strap-ear is securely fastened to bucket with rivets and it is impossible for hoops to come off.

The bottom is so constructed that it comes flush with bottom of staves, and cannot be broken by horse's foot getting in the bucket.

Furnished in oak or cedar.

Inside diameter; top, 11 1/2 inches; bottom, 9 1/2 inches. Inside depth, 9 7/8 inches. Capacity, 15 quarts. Packed 6 to a bundle. Weight per dozen: oak, 100 lb.; cedar, 72 lb.

With Iron Hoops.....per dozen \$21.65

With Galvanized Hoops.....per dozen 26.05



Tin Utility Measures—IC With Funnel Attachment



No.	Cap. Quarts	Size Inches	Carton Lots, Doz.	Carton Wt., Lbs.	Per Dozen
84	1	4 1/4 x 7 1/4	1	7 1/4	\$3.55
85	2	5 3/8 x 9	1	10 1/2	4.65
86	4	7 x 11 1/8	1/2	9	6.35



Nesco Galvanized Utility Measures

Plain, with funnel attachment.

Hot dipped galvanized steel.

Built to exact specifications of U.S. Bureau of Standards.

No.	384	385	386
Per Dozen.....	\$6.30	7.35	9.10
Capacity.....	quarts 1	2	4
Size.....	inches 4 1/4 x 7 1/4	5 3/8 x 9	7 x 11 3/8
No. in Carton.....	12	12	6
Weight per Carton.....	pounds 10	13 1/2	10 3/4

Lawco Combination Measures and Funnels Galvanized



No. 93

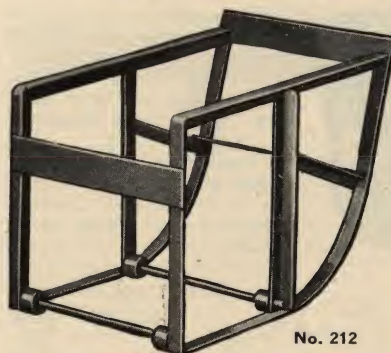
All parts are double seamed together in the back; then dipped galvanized with heavy coating of zinc. Leak-proof and rust-resisting.

Packed 1 dozen to a carton, except No. 96 which is packed six to a carton.

No.	Per Dozen	Cap. Quarts	Wt. Lbs. Per Doz.
*93	\$7.75	1/2	13
*94	10.50	1	14
*95	13.30	2	18
*96	16.65	4	25

*With curved spout.

Pollard Rocker Type Barrel Stands



No. 212

Handles 500-pound oil barrels easily.

Keeps the floors clear and saves accidents.

Constructed of channels and flat steel, well braced and balanced. Arc welded into one solid unit. Lift, 18 inches.

Olive green lacquer finish.

No. 211, without Rollers, Wt., 30 Lb.....each \$10.50

No. 212, with Rollers, Wt., 43 Lb.....each 15.50



No. 2 Plain Tin Water Dippers

Capacity, 1 pint.
Size, 4⁵/₈x1¹⁵/₁₆ inches.
Carton of 2 dozen weighs 5 pounds.
No. 2 per gross \$17.04

Funnels—IC

No.	Per Dozen	Capacity	Size In.	Carton Lots, Doz.	Carton Wt., Lb.
10	\$.60	1/4 Pt.	2 11/16	3	1 3/4
15	.70	1/2 Pt.	3 5/8	3	3 1/4
20	.80	1 Pt.	4 3/8	3	4 3/4
25	1.10	1 Qt.	5 5/8	3	7
30	1.45	2 Qt.	6 1/2	3	8 1/2
35	1.90	4 Qt.	7 5/8	3	12
60	3.20	6 Qt.	9 5/16	2	12 3/4

Galvanized Automobile Funnels



Extra heavy funnel, with brass wire strainer.
No. 51 has extra deep bowl. Hot dipped galvanized.

No.	31	51
Per Dozen	\$9.10	12.65
Diameter	9 5/8 inches	12
Carton Lots	1 1/2 dozen	1 1/2
Weight per Carton	8 1/4 pounds	16

Nesco Galvanized Sprinkling Cans



Double seamed body, brass rose cap, bronzed terne plate rose cap and paneled spout.

Extra heavy one-piece bossed tilted back handle. Carrying handle has edges wired upward. Triple rolled bottom seam.

Radiator filling spouts on No. 618 and larger.

No.	614	616	618	620	622	626
Per Dozen	\$10.75	12.00	13.75	15.00	16.75	21.00
Trade Cap. qt.	4	6	8	10	12	16
No. in Carton	4	4	4	4	4	2
Wt. per Carton lb.	8	10	12	14	16	11

Nesco Utility Galvanized Steel Baskets



Deep vertical corrugated bodies; corrugated seamless bottom. Without bails. Heavy top wire; reinforcing handle clips on drop handles. Extra large handles.

Copper bearing steel, hot dipped galvanized.

Packed 1/2 dozen in a bundle.

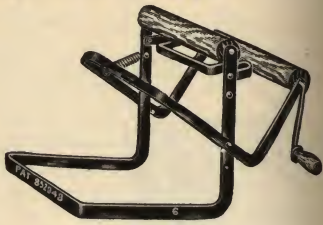
No.	150	175
Per Dozen	\$13.00	18.20
Capacity	1 bushels	1 1/2
Size	17 5/8x11 3/4 inches	21x12
Weight per Bundle	21 pounds	39

No. 6 Challenge Mop Wringers

A steel frame made to be used with or without a pail.

No. 6...per dozen \$24.00

Shipping Weight, per Doz..pounds 110



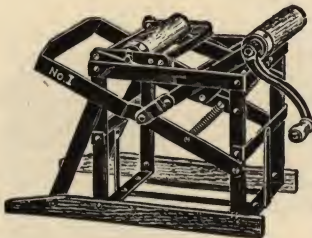
No. 6 Wringer

No. 9 Challenge Pails

A heavy steel frame mounted on an extra heavy 3 hooped, cedar, horse pail.

No. 9, with 14-Quart Cedar Pail.....per dozen \$38.00
Shipping Weight, per Dozen.....pounds 165

No. 1 Perfect Mop Wringers



Has a large space for inserting mops, 8x12 inches; a 16-quart galvanized or a 14-quart horse pail may be used.

Has long steel journal bearings, easily oiled and replaced.

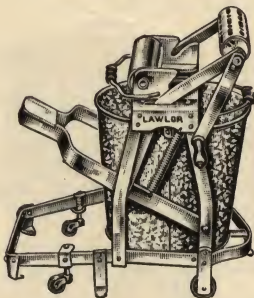
Both ends of the hard maple rollers have heavy steel caps to prevent rollers from splitting.

Flat steel strip bottom with 3/4x2-inch maple runners, no nails or screws to mar the floor. Wide place for foot on lever. Frame securely riveted and not bolted.

Shipping weight, 6 to a crate, 170 pounds.

No. 1.....per dozen \$62.00

No. 2 Janitor Special Mop Wringers



This mop wringer is made of steel. The all steel perforated roll forces the mop out without pulling. The long foot lever enables the user to bring the rolls together with very little effort and yet with sufficient pressure to dry the mop.

Self-adjusting casters automatically raise and lower the frame so that when the mop is being dried the wringer rests on the oval bearing feet and cannot move. When pressure is removed the casters automatically raise the feet permitting the wringer to be easily moved about.

Shipping weight, 6 in a crate, 160 pounds.

No. 2, Pails Extra.....per dozen \$85.00

No. 3 Iron Clad Mop Wringers



An all steel, powerful wringer. The frame has steel swivel casters, enabling it to be moved with a touch of the foot. Especially adapted for covering large floor space.

Shipping weight, 12 crated, 180 pounds.

No. 3.....per dozen \$36.00

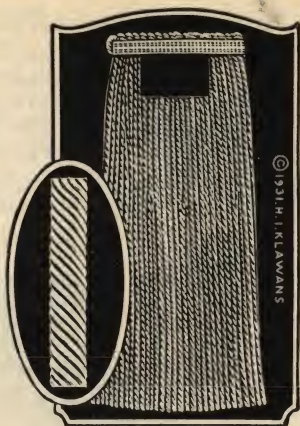
Special Mops

Made of 32-ply hard twist-
ed white cotton yarn. Spe-
cially made for janitor work
and use on rough wooden and
concrete floors.

Packed in dozens.

Length Inches	Weight Pounds
16	16
18	20
19	24
20	32

Prices upon application.



Stover Samson Mop Sticks



The 2-piece head is double cor-
rugated and solidly riveted to-
gether. The bail and bolt are
locked firmly in the socket in-
dependent of the wood. Has ash
handle, waxed and polished, 1 1/8
inch in diameter, 54 inches long.
Width of head, 7 3/8 inches. Length
over all, 63 inches.

Can be furnished with solid brass
screw bolts if desired, and with
extra long handle.

Packed 12 in a bundle; 72 in a
standard package. Weight of
standard package, 210 pounds.

Price, No. 70, Metal Parts

Japanned.....each

Price, No. 75, Metal Parts

Cadmium-Plated.....each

No. 7-S Stover Mop Handles

Regular Household Size

Suitable for both the wet or
water mop and the dry or oil mop
cloths. Will securely hold the
regular cotton mop cloth or any
discarded piece of clothing.

The head is made of steel, se-
curely riveted. The lever is made
of pressed steel.

All metal parts are coppered.

Handles are 4 feet long, pol-
ished and waxed.

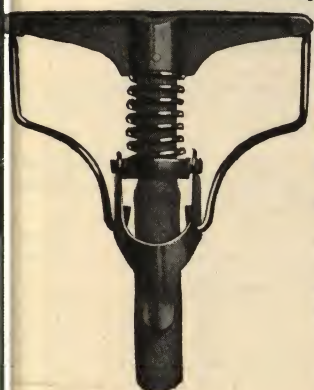


Packed one dozen in a bundle, one gross in a crate.

Prices upon application.

Stover Mop Handles

Janitor Size



Handles on the regular
sizes are 1 1/8-inch diameter
and 54 inches long. Longer
lengths can be supplied in
gross lots at a small advance
in price.

Nos. 10-C and 10-S fur-
nished coppered.

No. 10-C has cast iron head;
No. 10-S has steel head.

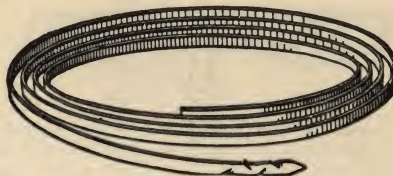
Nos. 12-C and 12-S fur-
nished cadmium plated.

No. 12-C has cast iron head;
No. 12-S has steel head.

Packed 12 in a bundle, one-
half gross in a crate.

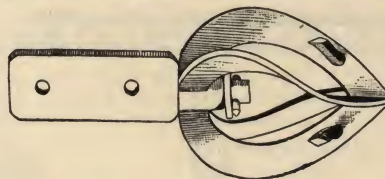
Prices upon application.

Steel Sewer Rods



Thickness Inches	Width Inches	APPROXIMATE WEIGHT, POUNDS			Price per Foot
		COIL, FEET			
		50	75	100	
1/16	1 1/2	..	..	10.85	\$.10
1/16	5/8	..	..	13.31	.13
1/16	3/4	..	..	16.00	.15
1/16	1	..	..	21.30	.20
1/8	3/4	16	24	32.00	.20
1/8	1 1/4	27	40	53.00	.25
1/8	1 1/2	32	48	64.00	.30

Fritz Sewer Pipe Cleaners



A spiral revolving cleaner that revolves and bores in as
it comes in contact with any obstruction which may form
in a sewer pipe.

Blades are hooked for reverse action and withdraw ob-
struction when removing rod from sewer. Can be attached
to any flat sewer rod from 3/4 to 1 1/2 inches wide.

Weight, 1 pound.

No.....	4	6
Each.....	\$3.00	3.50
Size.....inches	2 3/4 x 5 1/2	4 1/4 x 8 1/2

No. 1 Arrow Wood Floor Scrapers



Made of clear, kiln-dried hardwood.

Block is 7/8 inch thick, 2 3/4 inches high. Equipped with
3/16 inch pure gum rubber, 1 1/8 inches wide, which projects
5/8 inch out of block.

No.....	2114-1	2116-1	2118-1	2120-1	2124-1	2130-1	2136-1
Per Doz.	\$5.60	6.15	6.65	8.00	10.20	11.80	13.35
Size..in.	14	16	18	20	24	30	36
Wt. per							
Doz. lb.	9 1/2	11	13	15 1/4	17 1/2	22	27 1/2

Arrow Steel Floor Scrapers



A practical, du-
rable combination
of floor scraper and
squeegee. Frame
is made of 3/4 inch
angle and steel
strip.

Handle socket is
extra long of strong malleable iron. Finish green baked
enamel. Screws are of solid brass. Rubbers are 3/16 inch
thick by 2 1/4 inches wide, except 15 and 18-inch sizes which
are 1/4 inch thick and 2 inches wide, reinforced with a durable
cadmium-plated steel blade.

Packed in individual boxes.

No.....	2015	2018	2024	2030	2036
Per Dozen.....	\$18.30	22.80	28.90	36.10	43.35
Size.....inches	15	18	24	30	36
Weight per Dozen..lb.	31 1/2	34	45	58 1/2	64

No. 2 Galvanized Arrow Window Cleaners



A well built cleaner with bright, polished, cadmium-plated handle.

Made of heavy material and equipped with double $\frac{5}{16}$ -inch gray rubber.

Packed 6 in a box.

No.	1206-2	1208-2	1210-2	1212-2	1214-2	1216-2	1218-2
Per Doz.	\$2.20	2.45	2.65	2.95	3.20	3.45	3.65
Size, in.	6	8	10	12	14	16	18
Wt. per Doz. lb.	4½	4¾	5¼	5¾	6½	7¼	7¾

Silver Arrow Window Cleaners



Made of steel, cadmium plated and rust-proof. Solid brass oval head screws are countersunk. Lock ring prevents spreading of handle, eliminates slipping and wearing of tapered end of pole.

Equipped with one $\frac{3}{32}$ inch white service rubber and one $\frac{1}{32}$ inch cushion rubber. Packed in individual boxes.

No.	206	208	210	212	214	216	218
Per Doz.	\$7.25	7.80	8.35	8.90	10.00	11.35	12.20
Size, in.	6	8	10	12	14	16	18
Wt. per Doz. lb.	7	8	9	10	11	12	13

Golden Arrow Window Cleaners



Made of solid brass—acid cleaned and lacquered. Screws are oval head and countersunk. Lock ring prevents spreading of handle, eliminates slipping and wearing of tapered end of pole, and assures a firm, even grip.

Equipped with one $\frac{3}{32}$ inch white service rubber and one $\frac{1}{32}$ inch cushion rubber. Packed in individual boxes.

No.	106	108	110	112	114	116	118
Per Doz.	\$13.35	14.20	15.00	16.10	17.20	18.35	20.00
Size, in.	6	8	10	12	14	16	18
Wt. per Doz. lb.	8	9	11	12½	13	14	15

Plumbers' Closet Augers



Spring is of specially prepared spring wire to withstand most severe strains. Heavy gage, seamless brass guide tube, polished and lacquered.

Tempered— $\frac{7}{16}$ -Inch

No.	Each	Lgth.	Wt.	No.	Each	Lgth.	Wt.
		Ft.	Lbs.			Ft.	Lbs.
3A	\$1.40	3	2	9A	\$2.00	9	3½
6A	1.70	6	2¾				

Music Wire— $\frac{7}{16}$ -Inch

3P	\$1.90	3	2	9P	\$2.70	9	3½
6P	2.30	6	2¾				

Multicoil— $\frac{3}{8}$ -Inch Construction

3X	\$3.80	3	2¼	9X	\$6.60	9	4¼
6X	5.00	6	3¼				



No. 2101 Quaker Dust Pans

Covered, heavy, durable with steel edge. In green.

Size, $8\frac{1}{4} \times 12\frac{3}{4}$ inches.

Packed 6 in a carton.

Weight per carton, $9\frac{1}{2}$ pounds.

No. 2101.....per dozen \$8.00

Chamois Skins



Guaranteed washable.

Price, No. 12, 12x14 Inches.....each

Price, No. 14, 19x25 Inches.....each

Price, No. 17, 26x28 Inches.....each

Price, Genuine French Chamois, Full Skin about 24x28 Inches.....each

Velvet Sponges



For washing finished surfaces. It is soft and will not scratch or mar.

Packed six to a carton, and in 2 sizes, large and medium.

Price, Large Size.....each

" Medium Size....."

Natural Rock Island Sheep Wool Sponges



These sponges are packed in assortments containing only the most desirable sizes and grades, making it easy for both dealer and consumer to make selection.

Prices are shown by the piece and by the case which does away with the uncertainty and the shrinkage so often noticed in buying sponges by the pound or bale.

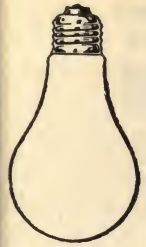
No.	Quantity Case Contains	Price Each	Price per Case
RF25	25	\$.25	\$6.25
RF50	25	.50	12.50
RF75	12	.75	9.00
RF100	6	1.00	6.00
RF150	6	1.50	9.00

Westinghouse Inside Frosted Mazda Lamps

Standard Line
General Lighting Service
110, 115 and 120 Volts

The Standard Line Lamps represent a high achievement in incandescent lamp manufacture. They produce better illumination, are more efficient, and are easily cleaned.

Fitted with medium screw base.



Watts	Each	Bulb	Length Over All Inches	Std. Pkg.
15	\$.10	A-15	3 1/2	120
25	.10	A-19	3 15/16	120
40	.13	A-19	4 1/4	120
60	.13	A-19	4 7/16	120
75	.15	A-21	5 5/16	120
100	.15	A-23	6 1/16	120
150	.20	A-25	6 15/16	60

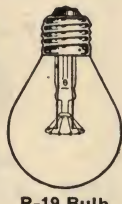
Westinghouse Rough Service Mazda Lamps

110, 115 and 120 Volts

In some classes of lighting service it is necessary to use lamps which are strong mechanically—lamps which will stand a great deal of abuse.

In the Rough Service Lamp, the filament is supported in such a way that it is capable of resisting severe bumps.

Fitted with medium screw base.



Watts	Each	Bulb	Length, Over All, Inches	Std. Pkg.
50	\$.25	A-19 Inside Frosted	3 15/16	120
100	.35	A-23 Inside Frosted	6 1/16	120
*50	.20	P-19 Clear	3 15/16	120

*This lamp is recommended where vibration prevails, such as is produced by heavy or high speed machinery.

Westinghouse Mazda C Lamps

General Lighting Service
110, 115, and 120 Volts

For store and office lighting.

Proper reflector should be provided to protect the eyes from the extremely bright filaments of a Mazda C lamp.

*750 hours life.

*1000 hours life.

Clear—Medium Screw Base

Watts	Each	Bulb	Length Overall In.	Lumens	Std. Pkg.
150	\$.20	A-25 Clear	6 15/16	2600	60
200	.27	PS-30 Clear	8 1/16	3700	60
*300	.45	PS-35 Clear	8 3/4	5900	24

Clear—Mogul Screw Base

Watts	Each	Bulb	Length Overall In.	Lumens	Std. Pkg.
**300	\$.65	PS-35 Clear	9 3/8	5750	24
500	1.10	PS-40 Clear	9 3/4	10000	12
750	3.25	PS-52 Clear	13 1/16	14500	6
1000	3.50	PS-52 Clear	13 1/16	21000	6
1500	5.25	PS-52 Clear	13 1/16	33000	6

Inside Frosted—Medium Screw Base

200	\$.27	PS-30 Inside Frosted	8 1/16	3700	60
*300	.50	PS-35 Inside Frosted	8 3/4	5900	24

Inside Frosted—Mogul Screw Base

**300	\$.70	PS-35 Inside Frosted	9 3/8	5750	24
500	1.20	PS-40 Inside Frosted	9 3/4	10000	12
750	3.45	PS-52 Inside Frosted	13 1/16	14500	6
1000	3.70	PS-52 Inside Frosted	13 1/16	21000	6
1500	5.55	PS-52 Inside Frosted	13 1/16	33000	6

White Bowl—Medium Screw Base

150	\$.25	A-25 White Bowl	6 15/16	2600	60
200	.32	PS-30 White Bowl	8 1/16	3700	60
*300	.50	PS-35 White Bowl	8 3/4	5900	24

White Bowl—Mogul Screw Base

**300	\$.70	PS-35 White Bowl	9 3/8	5750	24
500	1.20	PS-40 White Bowl	9 3/4	10000	12
750	3.45	PS-52 White Bowl	13 1/16	14500	6
1000	3.70	PS-52 White Bowl	13 1/16	21000	6
1500	5.55	PS-52 White Bowl	13 1/16	33000	6

No. 486 Eagle Tool Tap Trouble Lamps



Has a double outlet connected onto the cable right below the handle. Outlet is made of unbreakable rubber reinforced with a metal disc which prevents cable from pulling out.

Equipped with heavy duty wire guard and cadmium plated reflector, rubber handle with push-thru switch. Cable has rubber grip cap with spring prong.

Packed in individual boxes; 12 in a standard package.

No.	486-12	486-20	486-25	486-50
Each.	\$1.60	1.78	1.94	2.70
Length of Cable. feet	12	20	25	50
Weight Std. Pkg. pounds	27	36	46	74

McGill Loxon Locking Lamp Guards

Used in garages, factories, yards, shops, basements and closets to secure double protection against breakage and unauthorized removal. Made of steel wire, heavily tinned; available in sizes to fit all sockets and for regular and mill type lamps. Easily attached and locked with key. One key is included with each dozen guards.

Plain Guards



No. 1420



No. 1425



No. 1400

No.	Per Dozen	Lamp Size Watts	Fits Socket	Weight Pounds per Doz.
*1420	\$5.50	25-40	Brass	2 1/4
*1420 A	5.50	25-40	W.P.	2 1/2
*1420-B	5.50	25-40	W.P.	3
1425	5.50	50-60	Brass	2 1/2
†1426	5.75	60-100	Brass	2 3/4
1427-A	5.50	50-60	W.P.	2 3/4
1427-B	5.50	50-60	W.P.	3 1/4
†1428-A	5.75	60-100	W.P.	3
†1428-B	5.75	60-100	W.P.	3 1/2
2443	7.00	100-150	Brass	4 1/4
2444	9.00	150-200	Brass	3
2446-A	9.00	150-200	W.P.	3
2446-B	9.00	150-200	W.P.	3 1/2
2447	11.50	200 Old Style	Brass	5
2447-A	12.50	200 Old Style	W.P.	4 1/2
2447-B	12.50	200 Old Style	W.P.	4 3/4

Reflector Guards

*1400	\$8.50	25-40	Brass	3 1/2
*1401-A	8.50	25-40	W.P.	3 1/2
*1401-B	8.50	25-40	W.P.	4
1443	8.50	50-60	Brass	4 1/2
1444-A	8.50	50-60	W.P.	4 1/2
1444-B	8.50	50-60	W.P.	5 1/4

*Also 50-watt rough service and 50-watt mill type lamps.

†Special reflectors for 60 and 100-watt socket guards at slight additional cost.

All numbers followed by "A" fit any W.P. Socket with bottom bead measuring 1 1/16 to 1 11/16 inches in extreme diameter.

All numbers followed by "B" fit any W. P. Socket with bottom bead measuring 1 3/4 inches in extreme diameter.

For W. P. Sockets or receptacles with bottom bead measuring 1 1/2 inches in diameter, specify regular catalog number of guard desired followed by letter "N." Sockets not coming with the above dimensions can be fitted by sending a sample socket.

Aluminum sockets can be fitted by giving number and manufacturer's name.

MATERIAL NOT LISTED

We can furnish practically everything used in mill, factory, or shop.

Please send us all of your inquiries.

Economy Renewable Cartridge Fuses

250 and 600 Volts

Economy Fuses always operate at rated capacities. The drop out renewal link is quickly and easily replaced and the restoration of a blown Economy Fuse to its original efficiency is the work of a few moments only.

These fuses operate successfully under all conditions of service without filling material of any description. Fuses bear the "Und. Inspected" label in all capacities from 0 to 600 amperes in both 250 and 600 volts.

Complete Fuses—Ferrule Type—3 to 60 Amperes



Amperes	Car-ton	250 Volts			600 Volts		
		Cat. No.	Wt., Lbs. per Carton	Each	Cat. No.	Wt., Lbs. per Carton	Each
3	10	F- 325	$\frac{5}{8}$	\$.40	F- 305	$\frac{15}{8}$	\$1.00
6	10	F- 625	$\frac{5}{8}$	.40	F- 605	$\frac{15}{8}$	1.00
10	10	F-1025	$\frac{5}{8}$	.40	F-1005	$\frac{15}{8}$	1.00
15	10	F-1525	$\frac{5}{8}$	.40	F-1505	$\frac{15}{8}$	1.00
20	10	F-2025	$\frac{5}{8}$	.40	F-2005	$\frac{15}{8}$	1.00
25	10	F-2525	$\frac{5}{8}$	.40	F-2505	$\frac{15}{8}$	1.00
30	10	F-3025	$\frac{5}{8}$	.40	F-3005	$\frac{15}{8}$	1.00
35	10	F-3525	$\frac{13}{8}$	.80	F-3505	$\frac{33}{8}$	1.60
40	10	F-4025	$\frac{13}{8}$	.80	F-4005	$\frac{33}{8}$	1.60
45	10	F-4525	$\frac{13}{8}$	.80	F-4505	$\frac{33}{8}$	1.60
50	10	F-5025	$\frac{13}{8}$	.80	F-5005	$\frac{33}{8}$	1.60
60	10	F-6025	$\frac{13}{8}$	.80	F-6005	$\frac{33}{8}$	1.60

Dimensions

Amperes	250 Volts		600 Volts	
	Length Inches	Diameter Inches	Length Inches	Diameter Inches
1-30	2	$\frac{9}{16}$	5	$\frac{13}{16}$
35-60	3	$\frac{13}{16}$	$5\frac{1}{2}$	$1\frac{1}{16}$

Complete Fuses—Knife Blade Type—61 to 600 Amperes



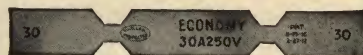
Amperes	Car-ton	250 Volts			600 Volts		
		Cat. No.	Wt., Lbs. per Carton	Each	Cat. No.	Wt., Lbs. per Carton	Each
70	5	F- 7025	2	\$1.80	F- 7005	$\frac{33}{8}$	\$3.60
80	5	F- 8025	2	1.80	F- 8005	$\frac{33}{8}$	3.60
90	5	F- 9025	2	1.80	F- 9005	$\frac{33}{8}$	3.60
100	5	F-10025	2	1.80	F-10005	$\frac{33}{8}$	3.60
110	1	F-11025	$1\frac{1}{16}$	4.00	F-11005	$\frac{13}{4}$	7.00
125	1	F-12525	$1\frac{1}{16}$	4.00	F-12505	$\frac{13}{4}$	7.00
150	1	F-15025	$1\frac{1}{16}$	4.00	F-15005	$\frac{13}{4}$	7.00
175	1	F-17525	$1\frac{1}{16}$	4.00	F-17505	$\frac{13}{4}$	7.00
200	1	F-20025	$1\frac{1}{16}$	4.00	F-20005	$\frac{13}{4}$	7.00
225	1	F-22525	$2\frac{1}{8}$	7.20	F-22505	$\frac{33}{8}$	14.00
250	1	F-25025	$2\frac{1}{8}$	7.20	F-25005	$\frac{33}{8}$	14.00
300	1	F-30025	$2\frac{3}{8}$	7.20	F-30005	$\frac{33}{8}$	14.00
350	1	F-35025	$2\frac{1}{8}$	7.20	F-35005	$\frac{33}{8}$	14.00
400	1	F-40025	$2\frac{1}{8}$	7.20	F-40005	$\frac{33}{8}$	14.00
450	1	F-45025	$3\frac{1}{2}$	11.00	F-45005	$5\frac{1}{2}$	20.00
500	1	F-50025	$3\frac{1}{2}$	11.00	F-50005	$5\frac{1}{2}$	20.00
600	1	F-60025	$3\frac{1}{2}$	11.00	F-60005	$5\frac{1}{2}$	20.00

Dimensions

Amperes	250 Volts		600 Volts	
	Length Inches	Blade Width Inches	Length Inches	Blade Width Inches
61-100	$5\frac{7}{8}$	$\frac{3}{4}$	$7\frac{7}{8}$	$\frac{3}{4}$
110-200	$7\frac{1}{8}$	$1\frac{1}{8}$	$9\frac{5}{8}$	$1\frac{1}{8}$
225-400	$8\frac{5}{8}$	$1\frac{5}{8}$	$11\frac{3}{8}$	$1\frac{5}{8}$
450-600	$10\frac{3}{8}$	2	$13\frac{3}{8}$	2

Economy Renewal Links

Ferrule Type—3 to 60 Amperes



250 Volts				600 Volts			
Cat. No.	Each	Am-peres	Car-ton	Wt. Lbs. per Carton	Cat. No.	Each	Am-peres
R-203	\$.02	3	100	$\frac{3}{16}$	R-603	\$.05	3
R-206	.02	6	100	$\frac{3}{16}$	R-606	.05	6
R-210	.02	10	100	$\frac{3}{16}$	R-610	.05	10
R-215	.02	15	100	$\frac{3}{16}$	R-615	.05	15
R-220	.02	20	100	$\frac{3}{16}$	R-620	.05	20
R-225	.02	25	100	$\frac{3}{16}$	R-625	.05	25
R-230	.02	30	100	$\frac{3}{16}$	R-630	.05	30
R-235	.04	35	100	$\frac{5}{8}$	R-635	.08	35
R-240	.04	40	100	$\frac{5}{8}$	R-640	.08	40
R-245	.04	45	100	$\frac{5}{8}$	R-645	.08	45
R-250	.04	50	100	$\frac{5}{8}$	R-650	.08	50
R-260	.04	60	100	$\frac{5}{8}$	R-660	.08	60

Knife Blade Type—70 to 1000 Amperes



250 Volts				600 Volts			
Cat. No.	Each	Am-peres	Car-ton	Wt. Lbs. per Carton	Cat. No.	Each	Am-peres
R-270	\$.09	70	50	$\frac{3}{8}$	R-670	\$.18	70
R-280	.09	80	50	$\frac{3}{8}$	R-680	.18	80
R-290	.09	90	50	$\frac{3}{8}$	R-690	.18	90
R-2100	.09	100	50	$\frac{3}{8}$	R-6100	.18	100
R-2110	.20	110	25	$\frac{1}{16}$	R-6110	.35	110
R-2125	.20	125	25	$\frac{1}{16}$	R-6125	.35	125
R-2150	.20	150	25	$\frac{1}{16}$	R-6150	.35	150
R-2175	.20	175	25	$\frac{1}{16}$	R-6175	.35	175
R-2200	.20	200	25	$\frac{1}{16}$	R-6200	.35	200
R-2225	.36	225	25	$\frac{15}{16}$	R-6225	.70	225
R-2250	.36	250	25	$\frac{15}{16}$	R-6250	.70	250
R-2300	.36	300	25	$\frac{15}{16}$	R-6300	.70	300
R-2350	.36	350	25	$\frac{15}{16}$	R-6350	.70	350
R-2400	.36	400	25	$\frac{15}{16}$	R-6400	.70	400
R-2450	.55	450	10	$\frac{11}{16}$	R-6450	1.00	450
R-2500	.55	500	10	$\frac{11}{16}$	R-6500	1.00	500
R-2600	.55	600	10	$\frac{11}{16}$	R-6600	1.00	600
R-2800	1.20	800	5	$\frac{11}{16}$	R-6800	1.50	800
R-21000	1.50	1000	5	1	R-61000	1.80	1000

Economy Tamres

125 Volts

Tamper-Resisting Plug Fuses

Standard Edison base. Will fit any existing standard fuseholder or cut-out. Can be used with or without adapter.

Without the adapter it is like any ordinary plug fuse, but becomes tamper-resisting with adapter.

Made of black Textolite with large, clear window.

Listed by Underwriters' Laboratories.

No.	TR-15	TR-20	TR-25	TR-30
Per 100	\$7.20	7.20	7.20	7.20
Amperes	15	20	25	30

Adapters

Fits on the base of the fuse and screws in with the fuse. When the fuse is removed the adapter remains permanently secured in the cutout ready to receive the same fuse or a new fuse. Adapters are not interchangeable.

No.	With Spring Lock		Without Spring Lock	
	TR-41	TR-51	TR-40	TR-50
Per 100	\$7.00	7.00	6.50	6.50
Amperes	15	20,25,30	15	20,25,30

Eco Non-Indicating Non-Renewable Enclosed Fuses

Sold under the label service of Underwriters' Laboratories. Made of heavy fiber tubing. Caps are permanently rolled on the fiber tube, not merely crimped. Caps on ferrule type ECO fuses are pierced without distorting out-of-round, and the piercing not only permanently prevents relative movement, but it also provides full clip contact and a means for venting.

Heavy copper lead-in terminals are used throughout and thereby provide accurate and dependable rating and performance. Unexcelled for uniformity of current-time operation.

Ferrule Type



Cap. Amps.	Carton Quan.	250 Volts		600 Volts	
		No.	Each	No.	Each
1	10	1101	\$.15	1601	\$.50
3	10	1103	.15	1603	.50
6	10	1106	.15	1606	.50
10	10	1110	.15	1610	.50
15	10	1115	.15	1615	.50
20	10	1120	.15	1620	.50
25	10	1125	.15	1625	.50
30	10	1130	.15	1630	.50
35	10	1135	.30	1635	.80
40	10	1140	.30	1640	.80
45	10	1145	.30	1645	.80
50	10	1150	.30	1650	.80
60	10	1160	.30	1660	.80

Knife Blade Type



Cap. Amps.	Carton Quan.	250 Volts		600 Volts	
		No.	Each	No.	Each
70	5	11070	\$.90	16070	\$ 1.80
80	5	11080	.90	16080	1.80
90	5	11090	.90	16090	1.80
100	5	11100	.90	16100	1.80
110	1	11110	2.00	16110	3.50
125	1	11125	2.00	16125	3.50
150	1	11150	2.00	16150	3.50
175	1	11175	2.00	16175	3.50
200	1	11200	2.00	16200	3.50
225	1	11225	3.60	16225	7.00
250	1	11250	3.60	16250	7.00
300	1	11300	3.60	16300	7.00
350	1	11350	3.60	16350	7.00
400	1	11400	3.60	16400	7.00
450	1	11450	5.50	16450	10.00
500	1	11500	5.50	16500	10.00
600	1	11600	5.50	16600	10.00

Clearsite Non-Renewable Plug Fuses

Clearsite Plug Fuses mount the fuse link under the fuse window thereby giving clear vision of the link. The drop-out type of link is used which lessens the internal operating pressure.

The fuse body is made of heat-resisting molded insulation, black in color.

Standard Sizes

Regular Packages

Cat. No.	Each	Cap. Amps.	Carton
4310	\$.07	10	50
4315	.07	15	50
4320	.07	20	50
4325	.07	25	50
4330	.07	30	50

Retail Packages

Cat. No.	Each	Cap. Amps.	Ret. Pkg.	*Carton
5710	\$.07	10	5	100
5715	.07	15	5	100
5720	.07	20	5	100
5725	.07	25	5	100
5730	.07	30	5	100

Bryant Porcelain Medium Base Lampholders

660 Watts, 250 Volts

Listed by Underwriters' Laboratories, Inc.



No. H73

With shadeholder groove.

For 3/4-Inch Boxes

No.	Per 100	Description	Carton	Std. Pkg.	Wt., Lb.
H227	\$19.00	With Screw Terminals	5	100	62
For 4-Inch and Switch Boxes					
H228	\$24.00	With Screw Terminals	5	50	45
On 3/4-Inch Cadmium Plated Covers					
H73	\$15.00	With Screw Terminals	10	100	50
On 4-Inch Cadmium Plated Covers					
H74	\$17.00	With Screw Terminals	5	100	68

Bryant Porcelain Medium Base Lampholders

250 Watts, 250 Volts

Listed by Underwriters' Laboratories, Inc.

With shadeholder groove.

Packed 10 in a carton, 50 in a standard package.

Removable Interior Type

For 3/4-Inch Boxes
Diameter, 3 3/8 Inches

No.	Per 100	Description	Wt., Lb.
H165	\$30.00	6-Inch Chain.....	30
H167	32.00	Chain & Insulator	30
H168	24.00	Chain & Cord....	30



No. H168

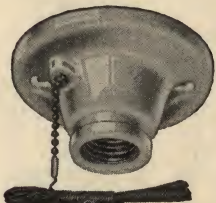
For 4-Inch and Switch Boxes
Diameter, 4 1/8 Inches

H185	\$42.50	6-Inch Chain.....	40
H187	47.00	Chain & Insulator	40
H188	34.20	Chain & Cord....	40

One-Piece Type

For 3/4-Inch Boxes
Diameter, 4 1/8 Inches

H265	\$30.00	6-Inch Chain.....	40
H267	32.00	Chain & Insulator	40
H268	24.00	Chain & Cord....	40



No. H268

For 4-Inch and Switch Boxes
Diameter, 5 1/8 Inches

H285	\$42.50	6-Inch Chain.....	60
H287	47.00	Chain & Insulator	60
H288	34.20	Chain & Cord....	60

With Convenience Outlet

Outlet—15 Amperes, 125 Volts
10 Amperes, 250 Volts

For 3/4-Inch Boxes

H135	\$41.00	6-Inch Chain.....	40
H137	43.00	Chain & Insulator	40
H138	35.00	Chain & Cord....	40



No. H135

For 4-Inch and Switch Boxes

H145	\$53.50	6-Inch Chain.....	60
H147	58.00	Chain & Insulator	60
H148	46.00	Chain & Cord....	60

Bryant Porcelain Concealed Receptacles

660 Watts, 250 Volts

Listed by Underwriters' Laboratories, Inc.



No. 4000



No. 4002



No. 50744

Packed 10 in a carton, 100 in a standard package.

No.	Per 100	Description	Diam. In.	Spacing In.	Screw Std. Pkg.	Wt., Lb.
4000	\$41.50	Plain.....	2 3/8	1 5/8	37	
4001	50.00	With Shadeholder Groove..	2 3/8	1 5/8	36	
4002	58.50	With Short Brass Shell....	2 3/8	1 5/8	30	
50744	50.00	With Porcelain Screw Ring.	2 11/32	1 3/8	35	

Bryant Surface Tumbler Switches

With Metal Cover

125-250 Volts



No. 3911

Height over cover, $1\frac{1}{16}$ inches.Supporting screw spacing, $1\frac{3}{4}$ inches.

Bakelite covers.

Cat. No.	Per 100	Description	AMPERES		Carton	Std. Wt. Lbs.	
			125 Volts	250 Volts		Pkg.	Std. Pkg.
3911	\$89.50	Single Phase.....	10	5	10	100	37
3912	127.50	Double Phase.....	10	5	10	100	40
3913	127.50	3-Point.....	10	5	10	50	18
3914	314.00	4-Point.....	5	2	2	10	4

Bryant Flush Tumbler Switches

Shallow Type—With Porcelain Cups

"T" Rated For Type C Lamp Loads

Dimensions of porcelain cups: Length, $2\frac{1}{16}$ inches; width, Nos. 3951 and 3951-L, $1\frac{1}{2}$ inches, others $1\frac{1}{16}$ inches; depth, $1\frac{3}{16}$ inches.

Supporting screw spacing, $3\frac{3}{16}$ inches.

Screws for mounting are furnished.

One key is furnished with each lock switch.

When ordering combination plates, specify S sections to accommodate these switches.

These switches, on special order, can be furnished with black handles (lock switches with black bosses) without extra charge.



No. 3951

Flush Tumbler Switches

Cat. No.	Per 100	Description	AMPERES		Carton	Std. Wt. Lbs.	
			125 Volts	250 Volts		Pkg.	Lbs.
3951	\$35.00	S. P. Indicating.....	10	5	10	100	30
3952	89.50	D. P. Indicating.....	10	10	10	50	17
3953	57.50	3-Point.....	10	5	10	50	17
3954	297.00	4-Point.....	5	2	2	10	4
3955	127.50	D. P. Indicating.....	20	10	2	10	3
3920	89.50	S. P. Quadruple Break, Indicating.....	20	10	10	50	16

Flush Tumbler Lock Switches

3951-L	\$110.00	S. P. Indicating.....	10	5	10	100	31
3952-L	164.50	D. P. Indicating.....	10	10	10	50	17
3953-L	132.50	3-Point.....	10	5	10	50	17
3954-L	372.00	4-Point.....	5	2	2	10	4
3955-L	202.50	D. P. Indicating.....	20	10	2	10	3
3920-L	164.50	S. P. Quadruple Break, Indicating.....	20	10	10	50	15

Flush Plates for Tumbler Switches

Stamped Brass, .040-Inch

One Horizontal Row, Symbol S

Brass finish.



No. OS41

Brass mounting screws, finished to match, are packed in the carton with each plate.

No.	OS41	OS42	OS43
Per 100.....	\$13.00	26.00	39.00
No. Gangs.....	1	2	3
Gangs in Carton....	10	10	10
Gangs in Std. Pkg....	100	100	100
Wt. per Std. Pkg. lb.	25	21	20

Bryant Brass Socket Bodies

Listed by Underwriters' Laboratories, Inc.

With KeyNo. 10 Single-Pole
250 Watts, 250 Volts

No.	Per 100	Carton	Std. Pkg.	Wt., Lb. Std. Pkg.
10	\$17.50	25	250	33

No. 12 Single-Pole High Capacity
660 Watts, 250 Volts

12	\$52.00	25	250	42
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No. 13 Keyless

660 Watts, 250 Volts

13	\$14.00	25	250	38
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No. 15 with Pull Chain

Single Pole

250 Watts, 250 Volts

15	\$23.50	25	250	35
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No. AA



No. AM



No. AQ



No. AT



No. CX

Bryant New Wrinkle Brass Caps

No.	Per 100	Carton	Std. Pkg.	Wt., Lb. Std. Pkg.
AA	\$8.00	25	250	12
AB	\$20.00	5	25	1 1/4
AC	\$12.00	25	100	5 1/2
AD	\$30.00	25	50	4
AG	\$20.00	25	50	2 1/4
AM	\$35.00	25	50	2 3/4
AP	\$40.00	5	25	1 1/2

No. AQ Cord Grip

For $\frac{3}{8}$ to $\frac{1}{2}$ -inch cords.

No. AT Pendant Cap

With bakelite bushing; $1\frac{1}{2}$ -inch hole.

No. AU Strain Relief Pendant Cap

With porcelain bushing; $1\frac{1}{2}$ -inch hole.No. CX $\frac{1}{8}$ -Inch FemaleWith insulated side entrance bushing. Dimension of cord hole, $\frac{1}{2} \times \frac{3}{16}$ inch.

Other socket caps may be fitted with insulated side entrance bushings. Add \$2.00 per 100.

CX	\$9.00	25	100	4 1/2
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Bryant Hemco Bakelite Weatherproof Sockets

Pony Size—660 Watts, 600 Volts

With 6-inch leads.

No. H309 without shade-holder groove.

No. H310 furnished with shade-holder groove.

Packed 10 in carton; 100 in standard package.

No.	H309	H310
Per 100.....	\$10.50	\$14.50
Wt. per Package..... lb.	13	13



No. H310

No. 35024 Bryant Single-Pole Plug-In Pull Sockets

250 Watts, 250 Volts



Length over all, $3\frac{3}{8}$ inches.

Standard chain is No. 6 size and is $6\frac{1}{2}$ inches long.

Brush brass finish.

Can also be supplied with lamp grip feature at an addition to price of \$7.00 per 100.

Carton, 2. Standard package, 10.

Weight package, 3 pounds.

No. 35024.....per 100 \$74.50

Protex Rubber Covered Sockets

660-Watts, 250-Volts



No. 700

The outer covering of this socket is made of high quality rubber compound to protect the interior from breakage and also make the socket shockproof and safe.

Packed 10 in a carton, 100 in a standard package.

Push Type



No. 717

To remove the interior of the socket, pull out fiber bar. When lamp is in socket, bar cannot be removed, as spring contact locks bar in.

No.	Each	Description	Wt., Lb. Std. Pkg.
700	\$.75	Pendant with $\frac{1}{16}$ -inch Cord Hole.....	27
701	.85	$\frac{1}{8}$ -Inch Cap.....	29
702	.85	$\frac{1}{4}$ -Inch Cap.....	29
703	.90	$\frac{3}{8}$ -Inch Cap.....	31
704	.90	$\frac{1}{2}$ -Inch Cap.....	32
705	.95	Pendant with $\frac{1}{8}$ to $\frac{1}{2}$ -Inch Cord Grip.....	38

Keyless Type

Socket interior can be removed from the rubber cover by pushing or pulling it out.

710	\$.60	Pendant with $\frac{1}{16}$ -Inch Cord Hole.....	22
711	.70	$\frac{1}{8}$ -Inch Cap.....	23
712	.70	$\frac{1}{4}$ -Inch Cap.....	23
713	.75	$\frac{3}{8}$ -Inch Cap.....	25
714	.75	$\frac{1}{2}$ -Inch Cap.....	26
*715	.75	$\frac{3}{8}$ -Inch Cap.....	24
*716	.75	$\frac{1}{2}$ -Inch Cap.....	25
717	.80	Pendant with $\frac{1}{8}$ to $\frac{1}{2}$ -Inch Cord Grip.....	33

*Seal-Tite socket; allows rubber to contact light bulb and make it moisture-proof.

No. 600 Watertite Weatherproof Sockets

660 Watts, 600 Volts



Used as an under-water unit without injury or short-circuit in socket or lamp. Meets all requirements for outside use. Also, for service in mines, tunnels, boiler rooms, etc., and all places where there is moisture and condensation or where sediments form on sockets.

Standard weatherproof shade holder will fit socket. Fits standard sign receptacle cover.

Outside diameter, $1\frac{1}{2}$ inches. Leads are No. 14 stranded wire; 6 inches long. Carton, 10; standard package, 100.

Weight, standard package, 20 pounds.

No. 600.....each \$25

Bryant Tandem Blade Attachment Plug Caps and Bodies

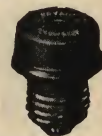
15 Amperes, 125 Volts; 10 Amperes, 250 Volts

Bakelite Templus Cap

No.	Per 100	Cord Hole In.	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.
5420	\$19.50	$1\frac{3}{32}$	10	100	6

Bakelite Composition Body

5612	\$36.50		10	100	17
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No. 345 Bryant Attachment Plugs Molded Weatherproof, Fuseless 660 Watts, 600 Volts

In one piece. Has 6-inch No. 14 stranded wire leads. For longer wires add \$4.50 per 100 devices for each extra foot on each conductor.

Carton, 10; standard package, 250.

Package weight, 44 pounds.

No. 345.....per 100 \$34.00

No. JX Bryant Composition Caps With Cord Grip

15 Amperes, 125 Volts; 10 Amperes, 250 Volts

$\frac{1}{16}$ -inch cord hole.

Steel armored cap, cadmium-plated.

With cord grip.

Cat. No.	Per 100	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.
JX	\$37.50	10	50	6



No. 109 Spring-Action Cube Taps



Rubber cube tap with three outlets always available. Internal and external spring-action blades. Each internal contact lies in an individual pocket, making it impossible to short circuit.

Approved Underwriters' Laboratories.

No. 109.....each \$15

No. 115 Spring-Action Attachment Plug Caps



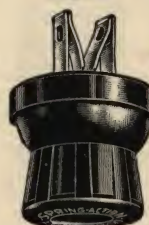
A small rubber grip cap. Groove in bottom permits wire to lie flat; especially useful where space is limited.

Size hole, .390.

Approved Underwriters' Laboratories.

No. 115.....each \$10

No. 127 Spring-Action Attachment Plug Caps



A heavy duty black rubber handle grip cap for industrial use with sanding machines, grinders, heavy machinery, etc.

Size hole, .540.

Approved Underwriters' Laboratories.

No. 127.....each \$25

Bryant Hemco Cube-Taps, Twin-Lite, and Thru-Lite Plugs



No. H17
Cube-Tap



No. H18
Cord Cube-Tap



No. H20
Twin-Lite



No. H204
Thru-Lite

Cat. No.	Per 100	Description	Car-ton	Std. Pkg.	Wt. Lbs. Pkg.
H17	\$7.60	Bakelite Cube-Tap.....	20	100	9
H18	8.54	Bakelite Cord Cube-Tap.....	20	100	9
H20	10.50	Bakelite Twin-Lite.....	10	100	11
H204	40.00	Bakelite Thru-Lite.....	10	100	15

Bryant Twist Lock Devices

Listed as Standard by Underwriters' Laboratories



No. TL7062

2-Wire Caps

20 Amps., 250 Volts

Composition Cap

No.	Per 100	Cord Hole In.	Car-ton	Std. Pkg.	Wt.-Lbs. Std. Pkg.
TL7062	\$40.00	13/32	10	50	7



No. TL7102

Armored Covered Cord Grip Cap

TL7102	\$50.00	3/16	10	30	5
TL7238	50.00	5/8	10	30	5



No. TL9763

Rubber Cord Grip Cap

TL9763	\$50.00	3/16	10	30	5
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3-Wire Caps

15 Amps., 125 Volts; 10 Amps., 250 Volts

Templus Cord Grip Cap

TL7554	\$70.00	3/16	10	50	6
TL7558	70.00	5/8	10	50	6



No. TL7311

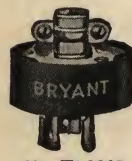
20 Amps., 250 Volts

Armored Cord Grip Cap

TL7311	\$110.00	23/32	10	30	8
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Armored Cord Grip Caps—Grounded

TL7311-G	\$110.00	23/32	10	30	8
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No. TL9965

Rubber Cord Grip Caps

TL9965	\$110.00	23/32	10	30	8
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4-Wire Caps

20 Amps., 250 Volts

Armored Cord Grip Cap

TL7411	\$150.00	23/32	10	20	8
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Rubber Cord Grip Cap

TL9967	\$150.00	23/32	10	20	9
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No. TL7101

2-Wire Connector Bodies

20 Amps., 250 Volts

Armored Cord Grip Body—Cadmium-Plated

TL7101	\$80.00	3/16	10	30	9
TL7224	80.00	5/8	10	30	9



No. TL7555

3-Wire Connector Bodies

15 Amps., 125 Volts; 10 Amps. 250 Volts

Templus Cord Grip Body

TL7555	\$120.00	3/16	10	50	8
TL7559	120.00	5/8	10	50	8

U.S. Royal Portable Cord



This cord is readily adaptable to any electric device. It will outwear many times any fabric covered portable cord.

Because of its extreme flexibility, combined with its non-absorbent, abrasion resisting features, this cord is highly recommended as part of initial equipment and for replacement of braided cable in the plant or in the field.

Oil and water, kinking and weather elements have no appreciable effect on the tough outer jacket of the cord.

Standard shipping package, 250-foot coil.

Type S

Size B&S	2-Conductor		Carrying Cap. Amp.	3-Conductor	
	No. Wires	Size B&S		Outside Diameter In.	Approx. Wt. Lb. per 1000 Feet
10	104	30	25	.640	218
12	65	30	20	.605	180
14	41	30	15	.532	133
16	65	34	6	.407	78
18	41	34	3	.391	69

Type SJ

16	65	34	6	.330	56	.360	75
18	41	34	3	.305	46	.335	60

Prices upon application.

Rubber Covered Single Wire Solid Conductor



Size B&S.	Thick-ness Insu-lation Inches	Approved Carrying Capacity Amperes	No. of Braids	Ft. per Coil	Coils per Case	Ft. per Case, Std. Pkg.	Gross Wt. Lbs. per Case
18	1/64	3	1	1,000	10	10,000	115
18	2/64	3	1	1,000	10	10,000	150
16	1/64	6	1	1,000	10	10,000	165
16	2/64	6	1	1,000	10	10,000	190
14	3/64	15	1	500	10	5,000	170
14	4/64	15	2	500	10	5,000	210
12	3/64	20	1	500	10	5,000	240
12	4/64	20	2	500	10	5,000	280
10	3/64	24	1	500	10	5,000	310
10	4/64	24	2	500	10	5,000	355
8	3/64	33	1	500	10	5,000	430
8	4/64	33	2	500	10	5,000	480
6	1/64	46	1	500	Coil Burlapped Coil Burlapped Coil Burlapped Coil Burlapped		67
6	1/64	46	2	500			72
4	1/64	65	1	500			94
4	1/64	65	2	500			100
2	1/64	90	2	500			135

U.S. Security Tape

Rubber Tape

(Splicing Compound)

Width.....inches	3/4
No. 8.....per roll	\$3.35
Approx. Ft. per Roll.....	21
Approx. Ship. Wt. per Roll.....	1/2

No. 8 Friction Tape

Non-raveling. Has good adhesive and tensile strength.

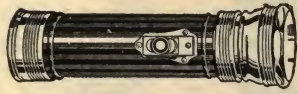
Manufactured and tested to meet rigid specifications.

Width.....inches	3/4
No. 8.....per roll	58
Approx. Ft. per Roll.....	58
Approx. Ship. Wt. per Roll.....	1/2



No. 2671 Eveready Flashlights

400-Foot Range



A 2-cell focusing flashlight, equipped with octagonal lens ring, lens retaining ring, safety-lock switch and ring hanger. Finish, black and chromium. Size, 7x1½ in. Use two No. 950 unit cells; lamp No. 1161. Unit package, 1.

No. 2671, Without Batteries.....each \$.78

Eveready Industrial Flashlights



An industrial automatic spotlight. Prefocused lamp. Die cast reflector.

Semi-hard rubber case, reinforced internally with brass parts.

Lamp shock absorber. Heavy duty hand replaceable switch. Ring hanger.

No.....	1251	1351
Without Batteries.....each	\$1.95	2.35
Size.....inches	6½x1¼	9¼x1¼
Mazda Lamp No.....	1414	1415
Flashlight Battery No.....	2-950	3-950

Eveready Safety Automatic Flashlights



No. 1259

Approved by Bureau of Mines and Underwriters Laboratories for use in explosive gaseous atmospheres. When bulb breaks electrical circuit opens automatically.

Prefocused lamp. Die cast reflector. Semi-hard rubber case reinforced internally with brass parts.

Lamp shock absorber. Heavy duty hand replaceable switch. Ring hanger.

No.....	1259	1359
Each, Less Batteries.....	\$3.05	3.70
Mazda Lamp No.....	PR-6	PR-7
Flashlight Battery No.....	2-950	3-950

No. 2642 Eveready Focusing Flashlights

800-Foot Range



A 3-cell flashlight equipped with focusing device and parabolic silvered reflector, non-rolling lens ring.

Black metal case with chromium fittings.

Size, 9½x1½ inches.

Use unit cell No. 950. Use lamp No. 1162.

Unit package, 1.

No. 2642, without Batteries.....each \$1.65

Eveready Flashlight Batteries

Unit Cells

No.	Each	No. Cells	Description	Size In.	Unit Pkg.	Wt. Lb.
915	\$.05	1	Penlight Cell	1½x¾	12	½
935	.10	1	Baby Tubular	2x1¼	12	1¼
950	.10	1	Regular	2½x1½	48	10¾
Tubular						
705	.30	3	Regular	7½x1½	12	7½
790	.20	2	Regular	4½x1½	12	5½



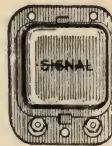
No. 950

Signal Jr. Door Buzzer

Operates on either battery or 6-volt door bell transformer. The base and cover are drawn steel. Gray finish. Has double coils non-adjustable type, and silver contacts.

Packed 100 in a standard package; shipping weight, 27 pounds.

Each.....\$.36



Signal Door Bells

Operates on either battery or 6-volt bell transformer. Base and cover of drawn steel and contacts are silver. Double coil non-adjustable type. Finish is ivory.



No.	Each	Gong In.	Std. Pkg.	Wt., Lb. Std. Pkg.
D2	\$.42	2½	100	60
D3	.60	3	50	36
D4	.82	4	25	24

Edwards Round Bronx Push Buttons

Schedule E

Has a black composition center. The mechanism is insulated and is recessed to allow the use of No. 14 wire. Standard finish, satin brass. Standard package, 100.



No.....	600	603
Diameter.....inches	2½	1¾
Each.....	\$.15	.15

Jefferson Tri-Volt Bell Ringing Transformers

For 115 volts a.c. Generates 3 secondary voltages: 6, 12 and 18 and will take care of longer leads than Wizard or Nucode.

Capacity, 5 watts; dimensions 2x2½x3¼ inches. Weight 1½ pounds.

No. 230-121, for 50-60 Cycles....each \$1.50

No. 230-122, for 25-40 Cycles....each 2.00



No. 6 Eveready Ignitor Dry Cells

With Screw Terminals

For heavy service in all dry cell applications. Recommended for ignition, radio, bells, buzzers, electric games, toys, lanterns and other battery operated devices. Has patented metal top construction. Protects against leakage and breakage.

Carefully packed from fresh stock and guaranteed to reach destination in perfect condition.

Voltage 1½.

Width 2½ inches.

Height 6½ inches.

Packed 12 in a standard package.

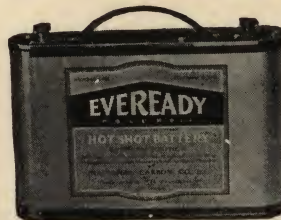
Weight per standard package, 27 pounds.

No. 6.....each \$.40



Eveready Hot Shot Batteries

Cells are connected by soldered copper strips and encased in a single metal container. The advantages of this new type covering are the ability to withstand rough usage, water-proof, thoroughly insulated to prevent internal short circuits and a woven fabric handle for convenience in carrying.



Cat. No.	Each	Voltage	DIMENSIONS, INCHES			Std. Pkg. Quantity in Box	Approx. Wt., Lb. Std. Pkg.
			Length	Width	Ht.		
1461	\$1.85	6	10½	2¾	7¼	4	41
1462	1.85	6	5½	5½	7¼	4	41
1562	2.35	7½	7½	5	7¼	4	52
1662	2.75	9	7½	5¼	7¼	4	62

Wrought Steel Eye Bolts



Standard package, 1 dozen.

Diam. Rod Inches	Length, Over All Inches	I.D. Eye Inches	No. 100, PLAIN		No. 102, GALV.	
			Weight Pounds per Dozen	Per Dozen	Weight Pounds per Dozen	Per Dozen
1/4	3 3/4	3/4	1	\$1.20	1	\$1.60
5/16	4	3/4	1 5/8	1.40	1 5/8	1.90
3/8	4 1/2	7/8	2 1/2	1.55	2 1/2	2.30
7/16	5 1/4	1	3	2.40	3	3.30
1/2	5 3/4	1 1/8	4 3/8	3.10	4 3/8	4.20
5/8	6 3/4	1 3/8	8	4.40	8	6.00
3/4	8 1/4	1 3/4	15	8.00	15	10.80



Wrought Steel Eye Bolts with Nut

Black

No.	PER DOZEN LENGTH OVER ALL, INCHES						Diam. Rod In.	I.D. Eye In.	Std. Pkg.
	3 1/2	4	5	6	8	11 1/2			
71	\$1.50	\$1.55	\$1.65	\$1.90	...	...	5/16	3/4	12
81	1.85	1.90	2.00	2.10	\$2.40	\$3.00	3/8	7/8	12
91	...	2.50	2.60	2.70	...	...	7/16	1	12
101	...	...	...	3.10	3.35	3.90	1/2	1 1/8	6
111	...	...	...	...	4.00	\$7.60	5/8	1 3/8	6

Galvanized

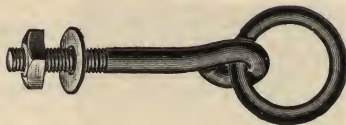
73	\$1.90	\$1.95	\$2.00	\$2.10	...	...	5/16	3/4	12
83	2.30	2.40	2.50	2.60	\$3.00	\$3.60	3/8	7/8	12
93	...	3.10	3.20	3.30	...	...	7/16	1	12
103	...	...	...	3.60	3.80	5.30	1/2	1 1/8	6
113	...	...	...	...	5.00	\$10.00	5/8	1 3/8	6

No. 111 Wrought Eye Bolts
With Turned Eyes—Plain Steel Finish

Packed 1 dozen in a box.

Size Inches	Per Gross	Length Over All Inches	Length Shank Inches	Size Inches	Per Gross	Length Over All Inches	Length Shank Inches
1/4	2 1/2	1 1/2	3/8	.....	6	4 1/4
5/16	3 1/4	2	3/8	.....	8	6 1/4
5/16	4	2 1/2	7/16	.....	6	4
3/8	4	2 1/4	7/16	.....	8	6

Wrought Steel Swing Bolts

Furnished complete
with nut and washer,
and with ring.Nos. 175 and 177 are
same style, but No. 177
is galvanized.Packed 12 swing bolts
in a box.

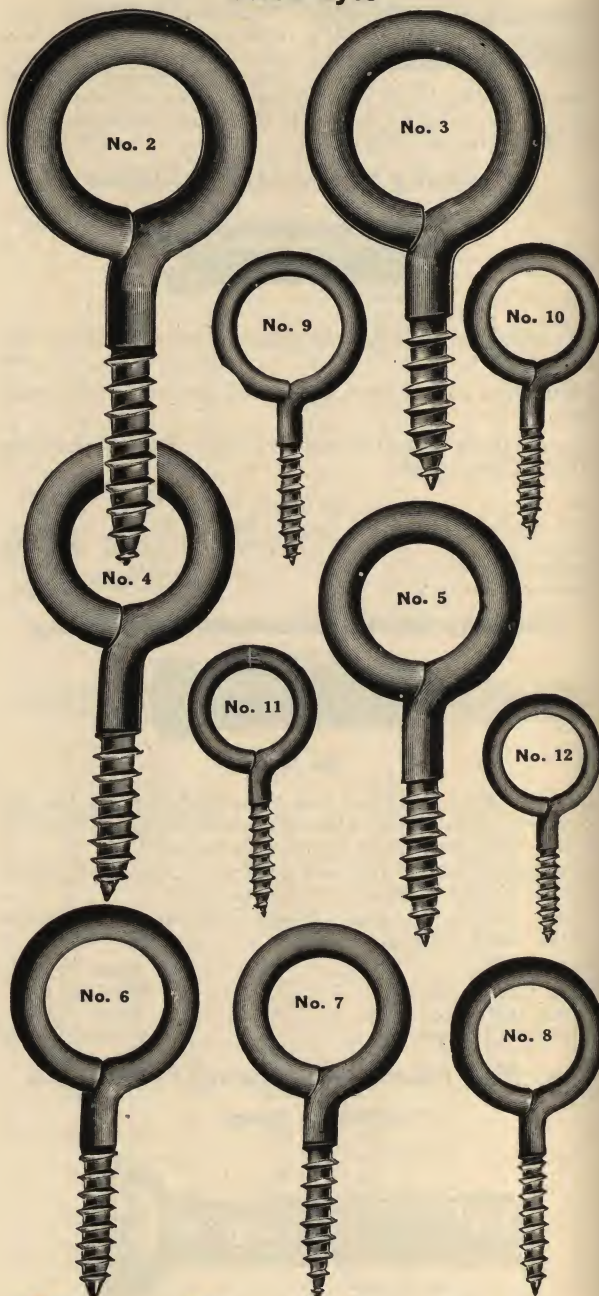
No. 175, Plain

*Length Over All In.	Length of Bolt In.	Size of Ring In.	Diam. Ring Wire In.	Diam. Bolt In.	Price per Doz.
7	5 1/2	2 1/2	3/8	1/2	\$4.65
9	7 1/2	2 1/2	3/8	1/2	5.40

No. 177, Galvanized

7	5 1/2	2 1/2	3/8	1/2	\$6.30
9	7 1/2	2 1/2	3/8	1/2	7.25

*Length over all includes the ring.

Bright Wire and Brass Wire Rolled Thread
Screw Eyes

Bright		Brass		Size Wire No.	Lgth. Over All In.	Lgth. Stem In.	I.D. Eye In.	Std. Pkg.
No.	Per Gross	No.	Per Gross					
000	\$9.00	.....	.....	000	37/8	21/16	1 1/8	36
00	7.00	.....	.....	00	3 1/16	17/8	1 5/16	36
0	3.60	1000	\$20.00	0	27/8	19/16	1 3/16	36
1	3.00	1001	15.00	1	2 13/16	17/16	25/32	72
2	2.50	1002	12.50	2	2 9/8	15/16	23/32	72
3	2.00	1003	10.00	3	2 7/16	17/32	21/32	72
4	1.60	1004	7.50	4	2 9/16	1 1/8	39/64	72
5	1.30	1005	6.50	5	2 1/8	1 1/32	19/32	144
6	1.00	1006	5.25	6	1 15/16	31/32	17/32	144
7	.85	1007	3.75	7	1 13/16	29/32	15/32	144
8	.75	1008	2.75	8	1 9/8	13/16	15/32	144
9	.65	1009	2.50	9	1 9/16	3/4	7/16	144
10	.55	1010	2.00	10	1 9/8	1 1/16	13/32	144
11	.50	1011	1.50	11	1 1/16	5/8	25/64	144
12	.45	1012	1.25	12	1 3/16	37/64	3/8	144
13	.40	1013	1.25	13	1 1/8	17/32	25/64	144
14	.40	1014	1.25	14	1 1/16	1 1/2	11/32	144

Bright Wire and Brass Wire Rolled Thread Screw Eyes



No. 104



No. 105



No. 106



No. 107



No. 108



No. 109



No. 110



No. 111



No. 112



No. 113



No. 114



No. 204



No. 205



No. 206



No. 207



No. 208



No. 209



No. 210



No. 211



No. 212



No. 213



No. 214

Illustrations are full size. One gross in a box.

Bright Wire.....No.	104	105	106	107	108	109	110	111	112	113	114	.....	116 1/2
Brass Wire....."	1104	.....	1106	1107	1108	1109	1110	1111	1112	1113	1114	.....	.....
Size Wire....."	4	5	6	7	8	9	10	11	12	13	14	.....	16
Length Over All.....inches	2 1/8	1 15/16	1 13/16	1 11/16	1 9/16	1 7/16	1 5/16	1 3/16	1 1/8	1	15/16	.....	1 1/16
Stem....."	1 1/8	1 1/32	31/32	29/32	13/16	3/4	11/16	5/8	37/64	17/32	1/2	.....	1 1/4
Inside Diam., Eye....."	31/64	15/32	7/16	13/32	25/64	21/64	9/16	19/64	9/32	1/4	1/4	.....	1 1/4
Price, Bright.....per gross	\$1.60	1.30	1.00	.85	.75	.65	.55	.50	.45	.40	.40	.....	.40
" Brass....."	7.50	6.50	5.25	3.75	2.75	2.50	2.00	1.50	1.25	1.25	1.25	.....	.....
Bright Wire.....No.	204	205	206	207	208	209	210	211	212	213	214	.....	217 1/2
Brass Wire....."	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1216 1/2	.....
Size Wire....."	4	5	6	7	8	9	10	11	12	13	14	16	17
Length Over All.....inches	1 5/16	1 3/4	1 3/8	1 1/2	1 3/8	1 1/4	1 3/16	1 1/16	15/16	7/8	13/16	9/16	1 1/2
Stem....."	1 1/8	1 1/32	31/32	29/32	13/16	3/4	11/16	5/8	37/64	17/32	1/2	9/32	9/32
Inside Diam., Eye....."	19/64	9/32	17/64	1/4	15/64	15/64	7/32	13/64	3/16	11/64	5/32	9/64	1/8
Price, Bright.....per gross	\$1.60	1.30	1.00	.85	.75	.65	.55	.50	.45	.40	.40	.....	.40
" Brass....."	7.50	6.50	5.25	3.75	2.75	2.50	2.00	1.50	1.25	1.25	1.25	1.25	....

Wrought Steel Awning Hooks



3 1/2-Inch and Smaller



4-Inch and Larger

Made of round wrought steel in sizes smaller than 4 inches; square wrought steel for 4-inch and larger.

No. 60 is plain; No. 62 is cadmium.

Packed one half gross in a box.

Length Inches	No. 60 per Gross	No. 62 per Gross	Length Inches	No. 60 per Gross	No. 62 per Gross
1 1/4	\$1.65	\$2.45	3	\$4.00	\$5.10
1 1/2	1.80	2.60	3 1/2	4.90	6.20
1 3/4	2.10	2.80	4	6.70	9.30
2	2.60	3.15	5	8.00	11.00
2 1/2	3.60	4.50	6	10.00	13.40

No. 972 Square Hooks and Staples
Bright Steel Finish

Packed 1/4 gross to the box.

Size Inches	Per Gross	Lgth. Staple Inches
4	2
5	2 1/4
6	2 1/2

Sargent Wire Gate Hooks and Eyes

No. 40, Bright Wire—U. S. Government Type 1601C

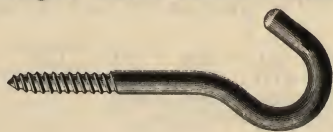
No. W40, Cadmium Plated—U. S. Government Type 1601-B

No. 1040, Brass Wire—U. S. Government Type 1601



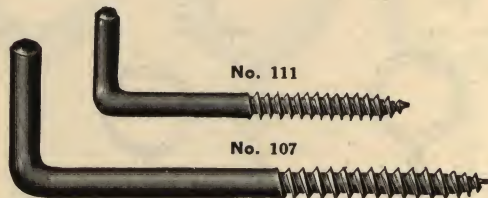
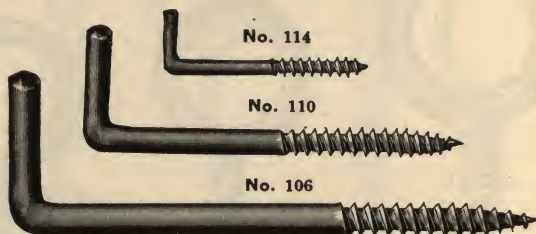
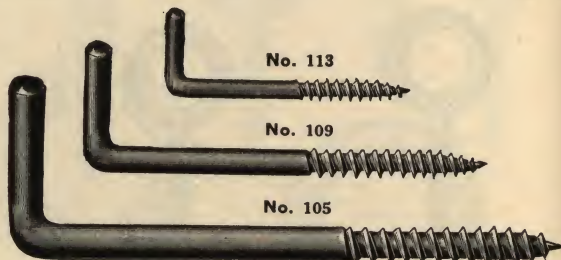
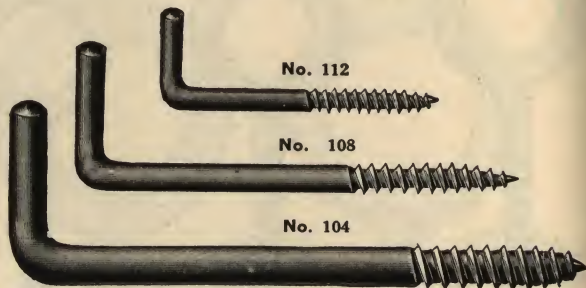
Size In.	No. 40 per Gross	No. W40 per Gross	No. 1040 per Gross	No. Gross per Box	Weight Pounds per Gross
1	\$1.50	\$1.50	\$6.00	1	1 1/2
1 1/2	1.75	1.75	6.50	1	3 1/2
2	2.00	2.00	7.50	1 1/2	3
2 1/2	2.50	2.50	10.00	1 1/2	3 1/4
3	3.00	3.00	12.50	1 1/2	4 1/2
3 1/2	3.50	.....	15.00	1 1/2	6
4	4.00	4.00	17.50	1 1/2	6
5	6.00	6.00	22.50	1 1/4	5
6	7.50	7.50	27.50	1 1/4	6
8	9.00	9.00	35.00	1 1/6	4 1/4
10	10.00	10.00	40.00	1 1/6	5
12	12.50	12.50	45.00	1 1/6	5 1/2
16	17.50	.....	.....	1 1/6	6 1/2

Wrought Steel Screw Hooks



Standard package, 1 dozen.

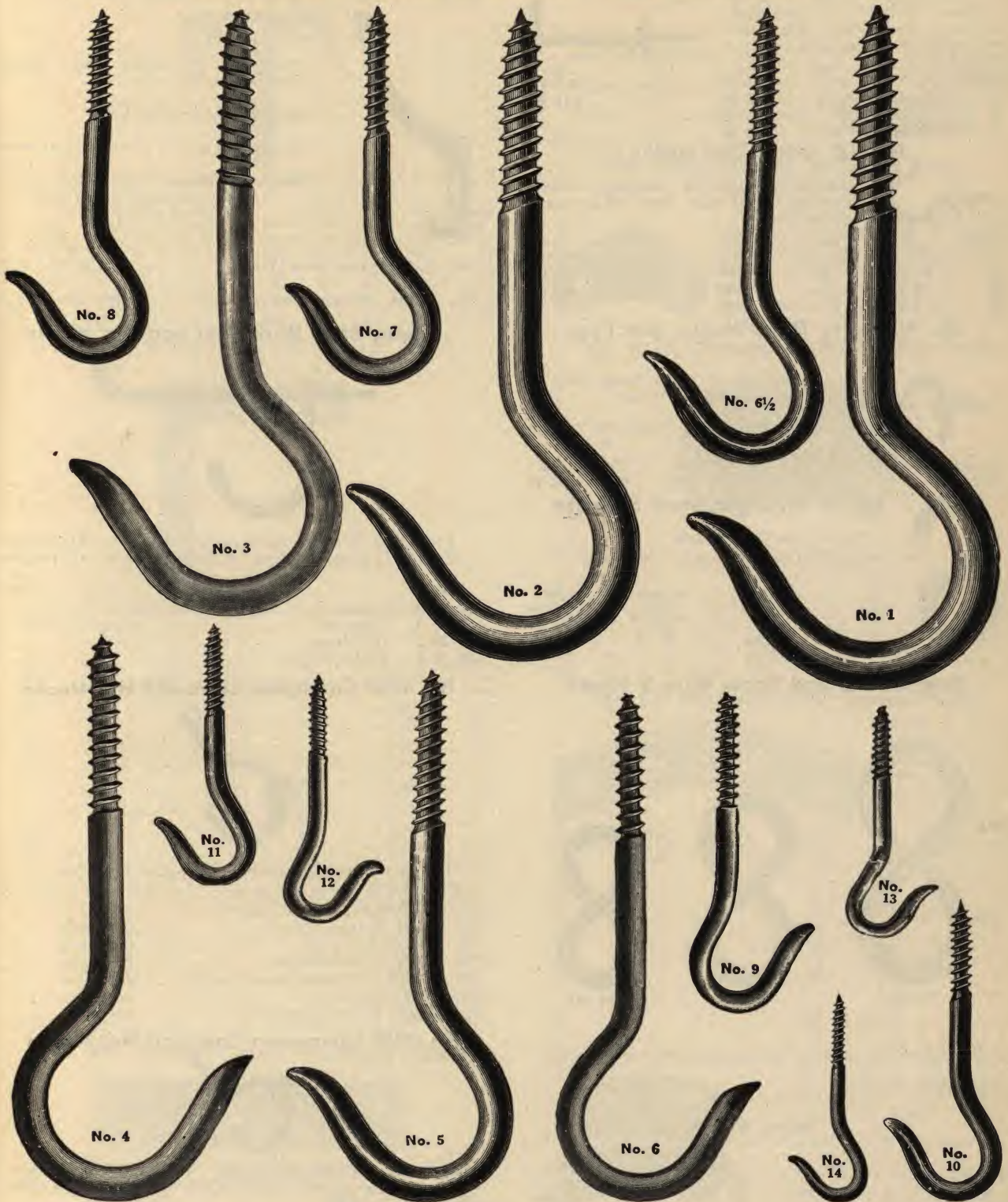
Diam. Rod Inches	Length Over All Inches	Length to Bend Inches	PRICE, PER DOZEN	
			No. 120 Black	No. 122 Galv.
1/4	4 1/4	2 3/8	\$.40	\$.75
5/16	4 1/2	2 3/8	.50	1.00
3/8	4 7/8	2 3/4	.65	1.20
7/16	5 1/4	2 7/8	.95	1.80
1/2	6	3 3/4	1.50	2.40
5/8	7	4	3.10	5.00
3/4	8	4 7/8	5.00	7.50

Bright Wire and Brass Wire Rolled Thread
Screw Hooks

Illustrations full size. One gross hooks in box.

No.	Size Wire No.	Lgth. Over All In.	Lgth. Hook In.	PRICE, PER Bright	GROSS Brass
104	1104	4	3 1/8	\$2.25	\$11.25
105	.....	5	2 1/8	2.00	.....
106	1106	6	2 5/8	1.50	6.25
107	1107	7	2 7/8	1.25	5.00
108	1108	8	2 1/4	1.10	3.50
109	1109	9	2	1.00	2.75
110	1110	10	1 3/8	.85	2.25
111	1111	11	1 9/16	.75	2.00
112	1112	12	1 3/8	.70	1.50
113	1113	13	1 3/16	.60	1.25
114	1114	14	1	.50	1.00

Bright Wire and Brass Wire Rolled Thread Screw Hooks



Full size illustrations. Nos. 0 and 1 packed $\frac{1}{4}$ gross in box; Nos. 2, 3, 4 and 5 packed $\frac{1}{2}$ gross in a box; No. 6 and smaller, one gross.

Bright Wire.....No.	0	1	2	3	4	5	6	6 $\frac{1}{2}$	7	8	9	10	11	12	13	14
Brass Wire.....No.	0	1	2	3	4	5	6	6 $\frac{1}{2}$	7	8	9	10	11	12	13	14
Size Wire.....No.	0	1	2	3	4	5	6	6 $\frac{1}{2}$	7	8	9	10	11	12	13	14
Lgth. Over All.....in.	4 $\frac{15}{16}$	4 $\frac{11}{16}$	4 $\frac{7}{16}$	4 $\frac{1}{8}$	3 $\frac{7}{8}$	3 $\frac{5}{8}$	3 $\frac{3}{8}$	3 $\frac{1}{16}$	2 $\frac{13}{16}$	2 $\frac{9}{16}$	2 $\frac{5}{16}$	2 $\frac{1}{16}$	1 $\frac{7}{8}$	1 $\frac{11}{16}$	1 $\frac{1}{2}$	1 $\frac{5}{16}$
I. D. Hook.....in.	1 $\frac{1}{8}$	1 $\frac{1}{16}$	1 $\frac{1}{32}$	3 $\frac{1}{32}$	2 $\frac{9}{32}$	7 $\frac{1}{8}$	1 $\frac{1}{16}$	1 $\frac{1}{16}$	5 $\frac{1}{8}$	9 $\frac{1}{16}$	1 $\frac{1}{32}$	1 $\frac{1}{32}$	3 $\frac{1}{8}$	1 $\frac{1}{32}$	5 $\frac{1}{16}$	3 $\frac{1}{32}$
Bright.....per gross	\$4.75	4.00	3.50	2.75	2.25	2.00	1.50	1.50	1.25	1.10	1.00	.85	.75	.70	.60	.50
Brass.....per gross	.....	.....	.....	.....	.....	.....	.....	.....	.....	3.50	.....	2.25	.....	1.50	.....	1.00

No. 1412 Brass Screw Hooks

Brass; dipped and lacquered. Upset shoulder; heavy base. Base will not come off the hook.



Projection, In.	Price per Gross	Projection, In.	Price per Gross	Projection, In.	Price per Gross
1/2	\$3.75	7/8	\$4.50	1 1/2	\$11.00
5/8	3.85	1	5.25	...	....
3/4	4.00	1 1/4	9.00	...	....

No. 181 Brass Cup Hooks

Brass; dipped and lacquered. Upset shoulder; heavy base. Base will not come off the hook.

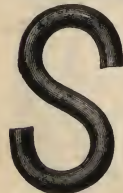
Projection, In.	Price per Gross	Projection, In.	Price per Gross	Projection, In.	Price per Gross
3/8	\$3.65	3/4	\$4.00	1 1/4	\$9.00
1/2	3.75	7/8	4.50	1 1/2	11.00
5/8	3.85	1	5.25	...	....

No. 60 Heavy Brass Hooks and Eyes

Made of heavy brass, only in the sizes shown below.

Packed 144 hooks and eyes in a box.

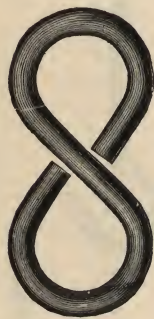
Length.....inches	1	1 1/4	1 1/2	2
Price, No. 60...per gross	\$4.00	4.40	4.70	6.40

No. 71 Wrought Steel S Hooks

The hook has blunt points.

Packed 3 dozen in a box.

Size Inches	Price per Gross	Size Inches	Price per Gross
1 1/2	\$2.35	2 1/2	\$4.30
1 3/4	2.80	3	5.50
2	3.10	...	....

Bright Wire and Brass Wire S Hooks

No. 810



No. 811



No. 812

Full size illustrations.

One gross in a box.

Bright Wire

No.	Size Wire No.	Lgth. Over All In.	Price per Gross
809	9	2 1/8	\$2.85
810	10	1 5/8	2.40
811	11	1 1/4	2.10
812	12	1 1/8	1.80

Brass Wire

No.	Size Wire No.	Lgth. Over All In.	Price per Gross
1809	9	2 1/8	\$9.00
1810	10	1 5/8	6.00
1811	11	1 1/4	4.20
1812	12	1 1/8	3.30

No. 3434 Corbin Coat and Hat Hooks

Projection, 3 1/2 inches; base, 2 1/2 x 5/8 inches; height, 5 3/4 inches.

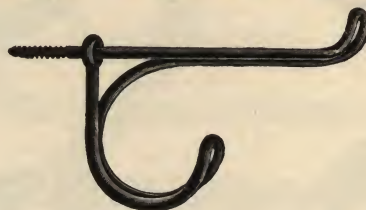
Made of cast iron, plated.

Packed 2 dozen in a box with screws.

Weight per dozen, 3 3/8 pounds.

No. EA3434, Dull Brass Finish.....per doz.

No. R3434, Antique Copper Finish.....per doz.

Shelby Steel Wire Coat and Hat Hooks

Projection, 3 inches. Spread, 2 1/16 inches. No. 10 wire gage. Packed 1/2 gross in a box. Weight per gross, 8 1/2 pounds.

No.	Finish	Per Gross
62 12 3	Japanned	.....
62 16 3	Coppered	.....
62 26 3	Dull Brass	.....
62 32 3	Nickel Plated	.....

No. 7300 Champion Coat and Hat Hooks

Made of cast iron, planished. Projection, 3 inches.

Packed 2 dozen in a box with 7/8x7 flat head screws to match. Weight per box, 5 pounds.

No. 7300B, Antique Copper.....	per gross	.....
No. 7300C, Dull Brass.....	per gross	.....
No. 7300N, Nickel Plated.....	per gross	.....
No. 7300SK, Oxidized Sanded Brass.....	per gross	.....
No. 7300J, Japanned.....	per gross	.....
No. 7300W, White Enameled.....	per gross	.....

No. 7400 Champion Coat and Hat Hooks

Made of cast iron, planished. Projection, 3 3/8 inches. Upper prong is almost horizontal, permitting location under and close to a shelf.

Packed 2 dozen in a box with 7/8x7 flat head screws to match. Weight per box, 4 3/4 pounds.

No. 7400B, Antique Copper.....	per gross	.....
No. 7400C, Dull Brass.....	per gross	.....
No. 7400H, Dead Black.....	per gross	.....
No. 7400N, Nickel Plated.....	per gross	.....
No. 7400SK, Oxidized Sanded Brass.....	per gross	.....
No. 7400J, Japanned.....	per gross	.....
No. 7400W, White Enameled.....	per gross	.....

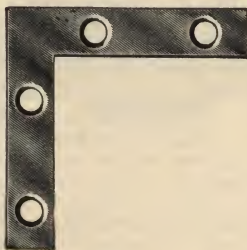
No. 995½ Stanley Wrought Steel T Plates



Size 6x6 inches packed one dozen in a box, other sizes, 2 dozen. All without screws.

Size Inches	No. 995½ Bright Steel Per Doz.	No. 995½K Cadmium Per Doz.	Width Inches	Screw Holes in Plate	Size of Screws	Gage of Metal	Weight Pounds per Dozen
2½x2½	1½	5	7	.075	1½
3 x3	5⁄8	5	8	.083	1½
4 x4	¾	5	8	.083	1½
5 x5	1	5	9	.083	2½
6 x6	1½	5	9	.123	5½

No. 999 Wrought Steel Corner Irons



Size 8-inch packed 1 dozen in box; other sizes 2 dozen. Without screws.

Length Sides Inches	Bright Steel per Gross	K Cadmium per Gross	Width Inches	Gage of Metal	Qty. and Size Wood Screws	Net. Wt. Lbs. per Gross
1½	¾	.071	4-5⁄8x5	25⁄8
2	¾	.071	4-5⁄8x5	3½
2½	¾	.071	4-5⁄8x5	45⁄8
2½	½	.071	4-¾x6	6
3	½	.071	4-¾x6	8½
3	5⁄8	.077	4-¾x6	10
3½	½	.071	4-¾x8	9
3½	5⁄8	.077	4-¾x8	12¾
3½	¾	.077	4-¾x8	14½
4	5⁄8	.077	4-¾x8	14
4	¾	.077	4-¾x8	16¾
4	7⁄8	.077	4-¾x8	18¾
5	7⁄8	.077	4-¾x8	24
5	1	.077	4-¾x8	26¾
6	7⁄8	.083	6-¾x9	35
6	1	.083	6-¾x9	37½
8	1½	.095	8-¾x9	84

No. 995 Wrought Steel Mending Plates



Packed two dozen in a box without screws, except 8-inch size, which is packed one dozen in a box.

Size Inches	No. 995 Bright Steel Per Gross	No. 995K Cad- mium Per Gross	Width Inches	Gauge of Metal	Screw Holes in Each Plate	Size of Screw	Weight Pounds per Gross
2	5⁄8	.072	2	¾x7	4
2½	5⁄8	.083	2	¾x7	5½
3	¾	.095	4	¾x7	8
3½	¾	.095	4	¾x8	10
4	7⁄8	.109	4	¾x8	12½
5	1	.109	4	¾x8	21
6	1½	.120	4	¾x9	31½
8	1¾	.134	4	1¼x10	49

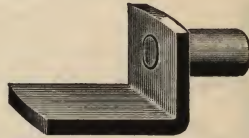
No. 1764 Corbin Shelf Supports

Steel, nickel-plated.

Packed one gross in a box.

Weight, 2½ pounds per gross.

Price, No. 1764.. per gross



No. 996½ Stanley Wrought Steel Corner Irons

This corner iron is dull copper plated. Countersunk, as follows: 1x1-inch No. 8 screws; 2x2-inch No. 9. Gauge .050. Packed 24 in box.

Size.....inches 1x1 2x2
Wt., per Gross.pounds 5½ 8
Per Gross.....



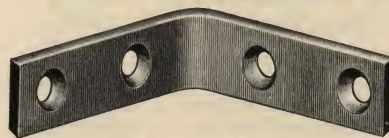
No. 997½ Wrought Steel Corner Irons



Packed two dozen in a box. Without screws.

Lgth Sides In.	Width In.	Screw Holes in Plate	Size of Screws	Wt. Lbs. per Doz.	PRICE. PER GROSS	Bright Steel	J Ja- panned	K Cad- mium
1	1	4	6	.071	1½	....	....	....
15⁄8	1½	6	8	.095	1½	....	....	....
2¼	1¾	6	10	.095	3	....	....	....

No. 997 Wrought Steel Corner Irons



Sizes 1 to 3½-inch packed two doz. in a box; 4 to 6-inch, one doz.; 8-inch, one-half doz. Without screws.

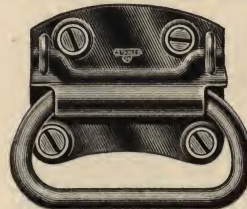
Length of Sides Inches	No. 996, Bright Steel Per Gross	No. 997, Cadmium Per Gross	Width Inches	Gage of Metal	Size of Screws	No. of Screw Holes
1	½	.072	6	2
1½	½	.095	6	4
2	5⁄8	.109	8	4
2½	5⁄8	.120	8	4
3	¾	.134	9	4
3½	¾	.148	9	4
4	7⁄8	.165	10	4
5	1	.180	11	6
6	1½	.180	12	6
8	1½	.220	12	6

No. 1205 Wrought Steel Heavy Chest Handles

The vertical corrugations re-inforce the stop, giving handles strong lifting power.

Japanned. With screws.

The 2-inch size is packed 1 dozen pairs in a box; sizes 2¾ and 3¼, ½ dozen pairs; other sizes, ¼ dozen pairs.



Size No.	Per Doz. Pairs	Size Handle In.	Size Plate In.	Size Wire In.	No. Screw Holes	Size of Screws	Wt., Lbs. per Doz. Pairs
2	2	2½ x1½	7⁄32	3	5⁄8x5	2½
2¾	2¾	2½ x2	1⁄4	3	¾x6	4½
3¼	3¾	3¾ x2¾	5⁄16	4	¾x8	8½
3½	3¾	3¾ x2½	1⁄32	4	7⁄8x10	10½
4	4½	4½ x3	3⁄8	4	1½x10	13½
4¾	4½	4½ x4½	7⁄16	5	1 x12	22¾

Keil Duplex Adjustable Showcase Standards and Brackets

For standard showcases. For glass or wood shelves.
Made of wrought steel. Nickel plated or statuary finish.

Standards

Standard is 3/4 inch wide and has 1 5/8-inch spacing. Open ends.
Stock lengths: 18, 24, 26, 28, 30, 32, 34, 36, 40, 42, 48, 52, 54, 60, 66, 72, 120, 144 inches.

Countersunk for No. 8 flat head screw.
Packed 10 strips in a package.

Per Foot. \$.15

Brackets

Width, 1/2 inch; .095 metal. Packed 25 in a box.

Size...inches	4	5	6	8	10	12	14	16	18
Each.....	\$.18	.18	.20	.24	.26	.28	.30	.36	.42

No. 432 Stanley Lid Supports



Not reversible. When ordering singly, specify hand.
Length, 10 inches.

Size of right hand wood screws, is No. 7 gage, 3/4-inch long.

Packed one dozen pairs in a box (one-half right hand) with wood screws.

Average net weight per dozen pairs, 3 1/4 pounds.

No. 432-C, Bright Brass.....per dozen pairs
No. 432-N, Bright Nickel.....per dozen pairs

No. 794 Stanley Wrought Steel Folding Brackets



This bracket is designed for use on porches, for flower boxes, in pantries or kitchens where a shelf is desired that can be dropped out of the way when not in use.

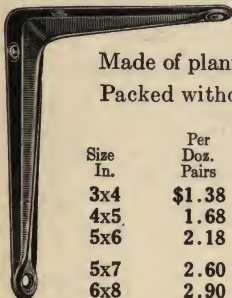
Locks automatically when open, and can be let down out of the way quickly and easily.

Six screw holes in each bracket.

Packed one pair in a box without screws.

Size Inches	J, Japanned per Dozen Pairs	SIZE OF SCREWS, INCHES		Weight Pounds per Doz. Pairs
		Shelf Plate	Wall Plate	
8x 8	3/4x7	1 1/4x7	15
12x12	3/4x8	1 1/4x8	29 1/2
16x16	3/4x9	1 1/4x9	46 1/2

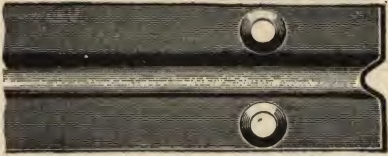
No. 88J Champion Improved Shelf Brackets



Made of planished steel, japanned finish.
Packed without screws.

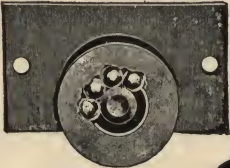
Size In.	Per Doz. Pairs	SIZE OF SCREWS INCHES		Pairs in Box	Wt. Lb. per Box
		Shelf Plate	Wall Plate		
3x4	\$1.38	5/8x5	3/4x6	12	2 1/4
4x5	1.68	3/4x7	1 1/4x7	12	3
5x6	2.18	3/4x7	1 1/4x7	6	2
5x7	2.60	3/4x7	1 1/4x7	6	3 1/2
6x8	2.90	3/4x7	1 1/4x7	6	3 3/4
7x9	3.60	3/4x7	1 1/4x7	6	5 1/2
8x10	3.90	3/4x8	1 1/4x8	3	3 1/2
10x12	5.80	3/4x8	1 1/4x9	3	4 1/2
12x14	9.00	3/4x10	1 1/4x10	3	6 1/2

No. 26U Garcy Wrought Steel Sliding Door Tracks

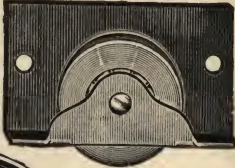


Brass plated.
Stock lengths, 4, 6, 8 and 12 feet.
Fits sheaves Nos. A4, A5, A6, A94, A99.
No. 26U per ft.

Garcy Champion Ball Bearing Sheaves With Round Grooves



No. A5



No. A6



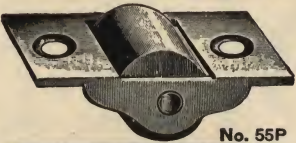
Nos. A4, A94, A99

Has thick and thin cone construction. Balls and weight of door are always on solid thick cones which do not spread apart. Balls do not wear on edges of cones. Cones, balls and wheels are solid steel, accurately turned; cones and balls are case hardened. Frames of heavy metal, countersunk to receive axle which is machine riveted. Sheaves are oiled and tested.

No.	A5	A6	A4	A94	A99
Per Dozen.....					
Thickness.....in.	1 3/8	1 1/2	1 1/2	1 1/2	1 3/8
Size Frame.....in.	2 1/4 x 1 3/8	2 3/8 x 1 3/8	*2 15/16	*2 15/16	*2 1/4
Diam. Wheels.....in.	1 3/8	1 3/8	1 3/8	1 1/8	1
No. in Box.....	48	48	48	48	72

*Length.

Garcy Drawer Rollers



No. 55P

Made of plain steel.

No.	Per Doz.	Size Frame In.	Diam. Wheel In.	No. in. Box
55P	1 1/2 x	5/8	144
50P	1 3/4 x	3/4	72
51P	2 x 1	3/4	48

Garcy Pilaster Standards and Brackets



For ordinary adjustable shelving four brackets are required for each shelf and four pilaster standards for each vertical row of shelves. Brackets snap in or out.

No. K73 Standards

Made of steel, brass, nickel silver or alchrom, a rust proof white nickel-chromium aluminum alloy. Any desired finish.

Width, 7/8 inch; adjustment every 1/2 inch. Stock lengths, 36, 48, 60, 72, and 144 inches.

Sizes up to 72 inches packed 24 to package. Furnished with corrugated, countersunk, screw head type nails.

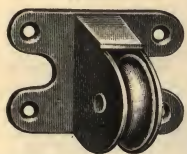
No. K73.....per foot

Adjustable Brackets

Nos. A73, T73, P73 made of steel, finished bright nickel, statuary bronze or rustproof cadmium. Nos. K73 and A73 also stocked in solid brass, ready for finishing. Nos. K73 and T73 also stocked in natural finish Alchrom.

No.	A73	T73	P73
Per Dozen.....	....	....	....

Corbin Hot House Pulleys



No. 1743

Made of cast iron, japanned.

No. 1747 is the same as No. 1743 except that it has a double pulley.

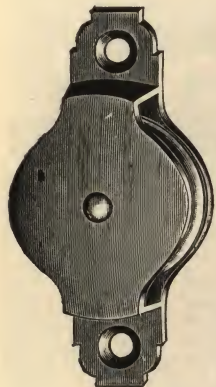
No. 1743, sizes 1 3/4 and 2 inches, packed 12 in a box; size 2 1/2 inches, packed six in a box.

No. 1747, size 1 3/4 inches, packed 12 in a box; all others, six in a box.

Furnished without screws.

No. 1743			No. 1747		
Size Inches	Wt., Lbs. per Doz.	Price per Doz.	Wt., Lbs. per Doz.	Price per Doz.	
1 3/4	7	.....	11 1/4	.....
2	10 1/4	.....	15 1/4	.....
2 1/2	16 3/4	.....	23 1/4	.....

No. 1770 Corbin Side Pulleys

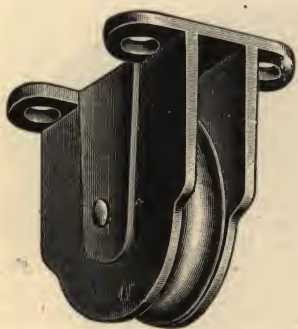


Made of cast iron, japanned.

Furnished without screws.

Size Inches	Per Dozen	No. in Box	Weight Pounds per Dozen
3/4	24	11 1/4
1	24	13 1/4
1 1/4	24	17 1/8
1 1/2	24	21 1/4
1 3/4	24	31 1/2
2	12	47 1/8
2 1/2	6	73 1/4
3	6	121 1/4
4	3	321 1/2

No. 1666 Corbin Ceiling Pulleys



Made of cast iron; japanned.

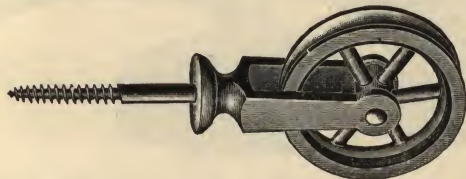
Three sizes: 1 3/4, 2 and 2 1/2 inches.

Packed one dozen in a box, without screws.

Size Inches	Wt., Lbs. per Dozen	Per Dozen
1 3/4	7	.....
2	8	.....
2 1/2	11 3/4	.....

No. 1658 Corbin Screw Pulleys

Wrought Steel Screw



Made of cast iron, japanned. Up to and including 2 inches, packed two dozen in a box; all others, one dozen.

Size In.	Wt. Lb. per Doz.	Per Doz.	Size In.	Wt. Lb. per Doz.	Per Doz.	Size In.	Wt. Lb. per Doz.	Per Doz.
3/4	7 1/8	.....	1 1/2	1 1/2	....	2 1/2	4 1/4	.....
1	7 1/8	.....	1 3/4	2 1/4	....	3	6 1/4	.....
1 1/4	1 1/8	.....	2	2 1/2	....	4	17 1/4	.....

Corbin Awning Pulleys

Nos. 1758 and 1758 1/2

Made of cast iron.

No. 1758 is japanned.

No. 1758 1/2 is galvanized.

Sizes up to and including 1 1/2 inches, packed one dozen in a box; all others are packed one-half dozen in a box.



Size Inches	Wt., Lbs. per Doz.	PRICE, PER DOZ.	
		No. 1758	No. 1758 1/2
1/2	13 1/16	....	....
5/8	1 1/4	....	....
3/4	1 3/4	....	....
1	2	....	....
1 1/4	2 7/8	....	....
1 1/2	4	....	....
1 3/4	6 3/4	....	....
2	9 3/4	....	....
2 1/2	17	....	....

Corbin Awning Pulleys

Made of cast iron.

Sizes up to and including 1 1/2 inches, packed 1 dozen in a box; all others packed 1/2 dozen in a box.



Size Inches	No. 1759 Japanned per Doz.	No. 1759 1/2 Galvanized per Doz.	Wt. Lb. per Doz.
3/4	2
1	3 3/8
1 1/4	5
1 1/2	7 1/2
1 3/4	12 3/4
2	16 1/2
2 1/2	27 3/8

Corbin Awning Pulleys

Nos. 1768 and 1768 1/2

Made of cast iron, with malleable iron swivel eye.

No. 1768 is japanned.

No. 1768 1/2 is galvanized.

Sizes up to and including 1 1/2 inches, packed one dozen in a box; all others are packed one-half dozen in a box.



Size Inches	Wt., Lbs. per Doz.	PRICE, PER DOZ.	
		No. 1768	No. 1768 1/2
1/2	13 1/16	....	....
5/8	1 1/8	....	....
3/4	1 1/2	....	....
1	2	....	....
1 1/4	3	....	....
1 1/2	4 1/4	....	....
1 3/4	7 1/4	....	....
2	9 1/4	....	....

Corbin Awning Pulleys

Made of cast iron, with malleable iron swivel eye.

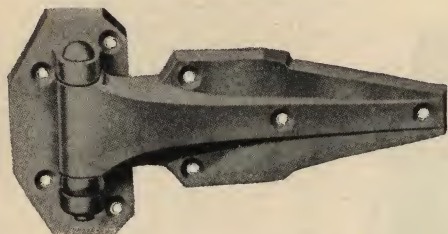
Sizes up to and including 1 1/2 inches, packed 1 dozen in a box; all others packed 1/2 dozen in a box.



Size Inches	No. 1769 Japanned per Doz.	No. 1769 1/2 Galvanized per Doz.	Wt. Lb. per Doz.
1/2	1 1/8
5/8	1 3/4
3/4	2 1/4
1	3
1 1/4	4 3/8
1 1/2	6 3/8
1 3/4	10 3/8
2	14 3/8

Keil Refrigerator Door Hinges

Ball Bearing



Made of brass. Chromium plated finish.
When ordering, specify size of offset.
Packed 1 pair in a box without screws.

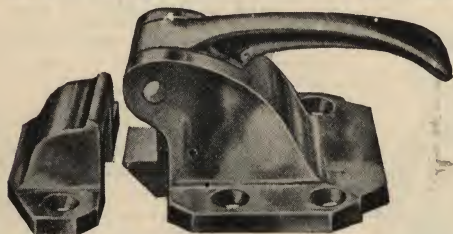
No.	Per Dozen Pairs	Length Overall Inches	Jamb Plate Inches	Offset Inches	Size Wood Screw	Wt. Lb. per Pair
8282	\$29.00	6	1 5/8 x 3	Flush	1 x 8	1 1/16
8283	40.00	8 1/8	2 x 3 5/8	Flush	1 1/4 x 10	2 5/8
8283 1/2	74.40	9 3/4	2 1/2 x 4 1/4	Flush	1 1/2 x 12	4 11/16
7881	25.30	5 1/4	1 5/8 x 3	3/8, 7/8, 1 1/8	1 x 8	1 1/2
7882	26.30	6	1 5/8 x 3	3/8, 7/8, 1 1/8	1 x 8	1 5/8
7882 1/2	35.00	7	1 5/8 x 3	3/8, 7/8, 1 1/8	1 x 8	1 3/4
7883	37.50	8	2 x 3 5/8	3/8, 7/8, 1 1/8	1 1/4 x 10	2 5/8
7883 1/2	†5.18	9 3/4	2 1/2 x 4 1/4	7/8, 1 1/8	1 1/2 x 12	4
*7884	†5.88	9 3/4	2 5/8 x 4 3/8	Flush	1 1/2 x 12	5 3/4
				7/8, 1 1/8		
*7885	†6.88	11 1/4	2 5/8 x 4 3/8	Flush	1 1/2 x 12	6 3/8
				7/8, 1 1/8		
*7886	†7.76	13	2 3/4 x 4 7/8	Flush	1 3/4 x 14	7 3/16
				7/8, 1 1/8		
*7888	†14.80	17 1/2	3 3/8 x 5 5/8	Flush	2 x 14	12 5/8
				1 1/8		

*Has two bearings, bottom and center.

†Per pair.

For special offsets, prices upon application.

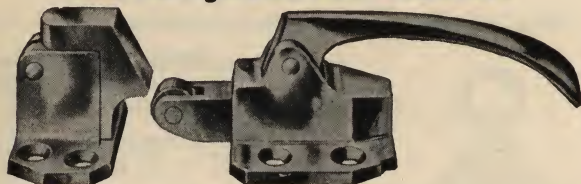
Keil Refrigerator Door Fasteners



Chromium plated alloy. Two stock nosings: flush and 3/8 inch. Specify nosing when ordering.
Packed 1 dozen in a box without screws.

No.	Flush per Dozen	Offset per Dozen	Length Overall Inches	Nosing Base Inches	Handle Base Inches	Size Wood Screw	Wt. Lb. Dozen
9210	\$7.20	\$7.92	2 3/4	1 1/16 x 1 1/2	1 1/2 x 1 1/2	5/8 x 5	2 5/8
9211	9.60	10.80	4	7/8 x 1 7/8	1 7/8 x 1 7/8	3/4 x 7	4

Keil Refrigerator Door Fasteners



Chromium plated alloy. Roller type. When ordering, specify nosing. Packed 1/2 dozen in a box without screws.

No. 9161

Adjustable stock nosings: flush to 1/2 inch, 3/8 to 7/8 inch.

No.	Per Dozen	Length Overall Inches	Nosing Base Inches	Handle Base Inches	Size Wood Screw	Wt. Lb. Dozen
9161	\$15.60	5 1/4	1 1/16 x 2	1 1/16 x 2	3/4 x 7	7 1/2

No. 9162

Adj. stock nosings: flush to 3/4 inch, 3/4 to 1 1/8 inch.

No.	Per Dozen	Length Overall Inches	Nosing Base Inches	Handle Base Inches	Size Wood Screw	Wt. Lb. Dozen
9162	\$19.20	6 1/8	1 1/8 x 2 1/4	2 x 2 1/4	7/8 x 7	11 1/8

LCN Refrigerator Door Closers



For refrigerated rooms with heavy doors and the cushioning effect of confined air. Has a powerful spring and no checking mechanism.

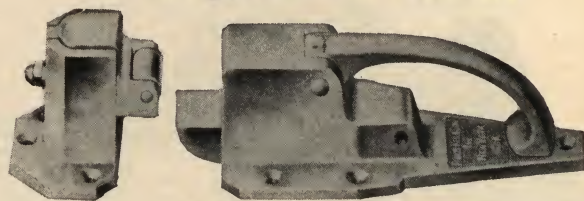
Made of grey iron. Silver bronze finish.

Packed 1 in a box.

Weight approximately 11 pounds each.

Each..... \$13.15

Keil Refrigerator Door Fasteners



Brass; chromium plated. Adjustable stock nosings: flush to 1/2 inch, 1/2 to 7/8 inch, 7/8 to 1 1/4 inches. Specify nosing when ordering. Packed 1 in a box without screws.

No.	Each	Length Overall Inches	Nosing Base Inches	Handle Base Inches	Size Wood Screw	Wt. Lb. Each
9158NC	\$11.40	10 1/2	2 1/8 x 3	7 1/8 x 3	1 1/2 x 12	7 1/8
9159NC	15.90	12 1/4	2 1/8 x 3 1/4	8 1/2 x 3 1/4	1 3/4 x 12	9 1/4
9160NC	22.40	14 5/8	2 3/4 x 3 3/8	10 1/2 x 3 3/8	2 x 14	15 1/16

Keil Refrigerator Door Fasteners

With Built-In Cylinder



Brass; chromium plated. Adjustable stock nosings: flush to 1/2 inch, 1/2 to 7/8 inch, 7/8 to 1 1/4 inches. Specify nosing when ordering. Packed 1 in a box without screws.

No.	Each	Length Overall Inches	Nosing Base Inches	Handle Base Inches	Size Wood Screw	Wt. Lb. Each
9158	\$13.60	10 1/2	2 1/8 x 3	7 1/8 x 3	1 1/2 x 12	8
9159	18.10	12 1/4	2 1/8 x 3 1/4	8 1/2 x 3 1/4	1 3/4 x 12	10
9160	24.60	14 5/8	2 3/4 x 3 3/8	10 1/2 x 3 3/8	2 x 14	15 3/16

Keil Refrigerator Door Fasteners



Made of brass. Chromium plated finish. Adjustable stock nosings: flush to 1/2 inch, 1/2 to 7/8 inch, 7/8 to 1 1/8 inch. Specify nosing when ordering.

Packed 1 in a box without screws.

No.	Per Dozen	Length Overall Inches	Nosing Base Inches	Handle Base Inches	Size Wood Screw	Wt. Lb. Each
9156	\$32.40	6 1/2	1 1/2 x 2 1/4	2 3/8 x 2 1/4	1 1/4 x 8	1 3/8
9157	45.60	8	1 7/8 x 2 3/4	3 x 2 3/4	1 1/4 x 10	2 1/2

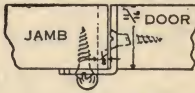
National Semi-Concealed Cabinet Hinges

Made of steel. Jamb leaf, $\frac{1}{2} \times 2\frac{1}{2}$ inches. Length of joint, $1\frac{1}{2}$ inches.

No. 460

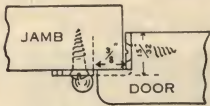
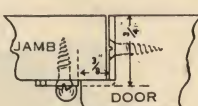
Furnished in polished chromium and other standard finishes.

Packed 12 pairs in a box with $\frac{5}{8} \times 5$ screws.
Weight per dozen pairs, $1\frac{1}{2}$ pounds.

**No. 460A**

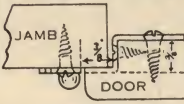
Furnished in polished chromium and other standard finishes.

Packed 12 pairs in a box with $\frac{5}{8} \times 5$ screws.
Width of Rabbit.....inches $\frac{15}{32}$ $\frac{3}{4}$
Weight per Dozen Pairs....pounds $1\frac{1}{2}$ $1\frac{3}{4}$

**No. 460A $\frac{15}{32}$** **No. 460A $\frac{3}{4}$** **Nos. 460B and 460C**

Furnished in polished chromium and other standard finishes.

Packed 12 pairs in box with $\frac{5}{8} \times 5$ screws.
No.....460B 460C
Width of Rabbit.....inches $\frac{3}{8}$ $\frac{1}{2}$
For Doors.....inches $\frac{3}{4}$ $\frac{7}{8}$
Weight per Dozen Pairs.lb. $1\frac{3}{4}$ $1\frac{3}{4}$

**No. 460B $\frac{3}{8}$** **No. 460C $\frac{1}{2}$**

Prices furnished upon application.

National Surface Cabinet Hinges

Made of steel. Jamb leaf, $\frac{1}{2} \times 2\frac{1}{2}$ inches. Length of joint, $1\frac{1}{2}$ inches.

No. 460R is for use with doors having a $\frac{3}{8}$ -inch offset.

No. 460S is for use with flush doors.

Furnished in polished chromium and other standard finishes.

No. 460R**No. 460S**

Packed 12 pairs in a box with $\frac{5}{8} \times 5$ screws.

Weight per dozen pairs, $1\frac{1}{2}$ pounds.

Prices furnished upon application.

No. 471 National Semi-Concealed Cabinet Hinges

Made of steel. Length of joint, $1\frac{1}{2}$ inches.

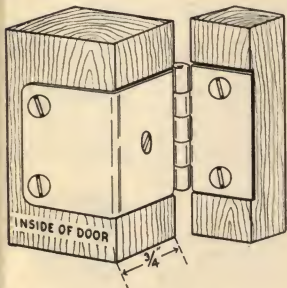
Available for doors $\frac{3}{4}$ or 1 inch thick; specify when ordering.

Furnished in prime coat and other standard finishes.

Packed 12 pairs in a box with $\frac{5}{8} \times 6$ screws.

Weight per dozen pairs, 2 pounds.

Prices furnished upon application.

**Colonial Drawer Knobs****With Black Lines**

Forged in brass. Diameter, $1\frac{1}{16}$ inches.

Packed 1 dozen in a box with screws.

Shipping weight per dozen, $1\frac{1}{4}$ pounds.

No. 138CB, Polished Chrome with Black Lines.....per dozen \$2.80

No. 138DCB, Dull Chrome with Black Lines.....per dozen 2.80

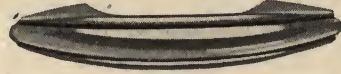
No. 61200 National Drawer Pulls

Made of steel. Can also be furnished with brass shell. Length, $4\frac{1}{2}$ inches. Screws spaced $2\frac{3}{4}$ inches, center to center.

Available in bright or dull chromium plated finishes.

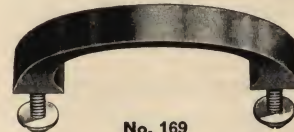
Packed 6 dozen in a carton.

Prices upon application.

No. 8213 National Drawer Pulls

Made of wrought brass. Length, 4 inches. Screws spaced $2\frac{3}{4}$ inches, center to center. Chromium plated finish with black lacquered lines. Packed 6 dozen in a carton.

Prices furnished upon application.

Colonial Drawer Pulls**No. 169**

Forged in brass.

Packed 1 dozen in a box with screws.

No. 169 Series

Length overall, $2\frac{3}{4}$ inches. Center to center, $2\frac{1}{4}$ inches. Shipping weight per dozen, $1\frac{1}{2}$ pounds.

No. 169P, Polished Brass.....per dozen \$2.60

No. 169C, Polished Chrome.....per dozen 3.00

No. 169DC, Dull Chrome.....per dozen 3.00

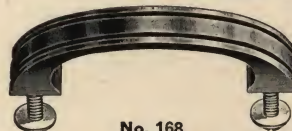
No. 165 Series

Length overall, 4 inches. Center to center, $3\frac{1}{2}$ inches. Shipping weight per dozen, $1\frac{3}{4}$ pounds.

No. 165P, Polished Brass.....per dozen \$3.40

No. 165C, Polished Chrome.....per dozen 3.80

No. 165DC, Dull Chrome.....per dozen 3.80

Colonial Drawer Pulls**With Black Lines****No. 168**

Forged in brass.

Packed 1 dozen in a box with screws.

No. 168 Series

Length overall, $2\frac{3}{4}$ inches. Center to center, $2\frac{1}{4}$ inches. Shipping weight per dozen, $1\frac{1}{2}$ pounds.

No. 168CB, Polished Chrome with Black Lines.....per doz. \$3.40

No. 168DCB, Dull Chrome with Black Lines.....per doz. 3.40

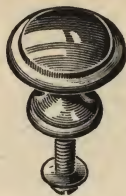
No. 164 Series

Length overall, 4 inches. Center to center, $3\frac{1}{2}$ inches. Shipping weight per dozen, $1\frac{3}{4}$ pounds.

No. 164CB, Polished Chrome with Black Lines.....per doz. \$4.20

No. 164DCB, Dull Chrome with Black Lines.....per doz. 4.20

No. 138 Series Colonial Drawer Knobs



Forged in brass. Diameter, $1\frac{1}{16}$ inches.

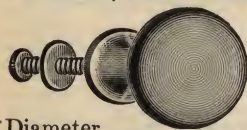
Packed 1 dozen in a box with screws.

Shipping weight per dozen, $1\frac{1}{4}$ pounds.

No. 138P, Polished Brass.....	per dozen	\$2.06
No. 138DB, Dull Brass.....	per dozen	2.06
No. 138DBZ, Dull Bronze.....	per dozen	2.06
No. 138C, Polished Chrome.....	per dozen	2.50
No. 138DC, Dull Chrome.....	per dozen	2.50

No. 1531 $\frac{1}{2}$ Corbin Drawer Knobs

Made of wrought brass or bronze.



Diameter.....	inches	$\frac{3}{4}$	1	$1\frac{1}{4}$
No. A1531 $\frac{1}{2}$, Pol. Brass Fin....	per doz.	\$1.15	\$1.65	\$2.00
No. EA1531 $\frac{1}{2}$, Dull Brass Fin..	per doz.	1.15	1.65	2.00
No. CR1531 $\frac{1}{2}$, Pol. Chrome Fin.	per doz.	1.65	1.95	2.35
No. DCR1531 $\frac{1}{2}$, Dull Chrome Fin.	per doz.	1.65	1.95	2.35

Shelby Crescent Drawer Pulls



Packed $\frac{1}{4}$ gross in a box with screws; 6 gross in a case

Weight per gross, $7\frac{1}{2}$ pounds.

No. 4262, Wrought Steel, Dull Brass-Plated.	per gross	\$7.50
No. 4272, Wrought Brass, Dull Brass Finish.	per gross	14.50

No. 1020 Corbin Flush Rings

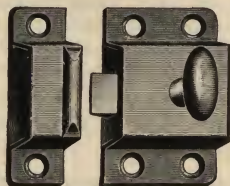


Made of cast brass or bronze, polished.

Packed 36 in a box, with screws.

Size.....	inches	1	$1\frac{1}{4}$	$1\frac{1}{2}$
No. 1020.	per dozen	.....	.....	.....
Size Plate.....	inches	$1\frac{1}{2} \times 1$	$1\frac{5}{8} \times 1\frac{1}{4}$	$1\frac{7}{8} \times 1\frac{1}{2}$

Corbin Cupboard Turns



Nos. 13046 and 13048 made of wrought steel; Nos. 2246 $\frac{1}{2}$ and 2248 $\frac{1}{2}$ of wrought bronze.

Packed 1 dozen in a box with screws.

No.	Per Gross	Size In.	Finish	Wt. Lb. per Doz.
R13046	$1\frac{1}{16} \times 1\frac{1}{8}$	Antique Copper	$1\frac{3}{4}$
EA13046	$1\frac{1}{16} \times 1\frac{1}{8}$	Brass-Plated, Dull	$1\frac{3}{4}$
E13048	$2\frac{1}{8} \times 1\frac{1}{16}$	Nickel Plated, Pol.	$2\frac{3}{8}$
R13048	$2\frac{1}{8} \times 1\frac{1}{16}$	Antique Copper	$2\frac{3}{8}$
EA13048	$2\frac{1}{8} \times 1\frac{1}{16}$	Brass-Plated, Dull	$2\frac{3}{8}$
E2246 $\frac{1}{2}$	$1\frac{1}{16} \times 1\frac{1}{8}$	Nickel-Plated	2
R2246 $\frac{1}{2}$	$1\frac{1}{16} \times 1\frac{1}{8}$	Antique Copper	2
EA2246 $\frac{1}{2}$	$1\frac{1}{16} \times 1\frac{1}{8}$	Dull Brass	2
E2248 $\frac{1}{2}$	$2\frac{1}{8} \times 1\frac{1}{16}$	Nickel-Plated	$2\frac{5}{8}$
R2248 $\frac{1}{2}$	$2\frac{1}{8} \times 1\frac{1}{16}$	Antique Copper	$2\frac{5}{8}$
EA2248 $\frac{1}{2}$	$2\frac{1}{8} \times 1\frac{1}{16}$	Dull Brass	$2\frac{5}{8}$

No. 1123 Corbin Turn Buttons



Made of cast iron, japanned.

Furnished without screws.

Size.....	inches	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2	$2\frac{1}{2}$
No. 1123.....	per gross	.....	.....	.....	.....	.....
Number in Box.....		144	144	144	144	72

Corbin Elbow Catches



Plate, $\frac{5}{8} \times 1\frac{1}{4}$ in. Packed, 3 doz. in box with screws; 60 doz. in case.

Cast Iron, Japanned

Weight, 1 pound per dozen.

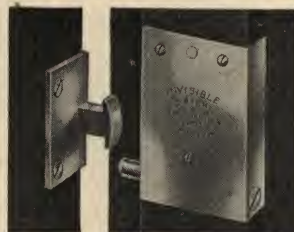
No. J01622.....per gross.....

Cast Brass, Unpolished

Weight, 15 ounces per dozen.

No. 01623.....per gross.....

Invisible Latches



For all types of secret doors and panels. Holds door securely without showing any hardware to mar appearance.

Made of cast bronze or brass.

Packed $\frac{1}{2}$ dozen in a box.

Type	Each	Description	Wt. Lb. per Box
A	\$2.75	For Panels, Cabinet and Closet Doors.....	2
B	3.75	For Light, Medium and Heavy Doors.....	3

No. 3396 National Friction Catches



Easy to apply; exact alignment is not necessary.

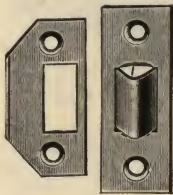
Made of steel. Pierced for $\frac{1}{2} \times 5$ round head screws.

Packed 2 dozen in a box with screws.

No. 3396, Cadmium

Plated. per doz.

No. 01820 Corbin Friction Catches



All brass, polished and lacquered.

Size, $2 \times \frac{3}{4}$ inches.

Packed, 12 in a box with screws.

Weight, 10 ounces per dozen.

No. 01820.....per gross.....

Frost Friction Door Catches



Invisible; designed to work on any style door.

No. 22

Made of brass.

Non-Adjustable

No.	Per Gross	Size Inches
$14\frac{1}{2}$	\$2.60	$\frac{1}{4} \times \frac{3}{8}$
$10\frac{1}{2}$	3.00	$\frac{3}{8} \times \frac{1}{2}$



Strike for Nos. 22, 30, 9479 and 9480

Adjustable Tension

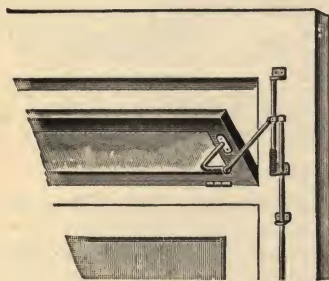
No.	Per Gross	Size Inches
25	\$8.55	$\frac{5}{16} \times \frac{5}{8}$
22	9.10	$\frac{3}{8} \times \frac{5}{8}$
30	15.55	$\frac{1}{2} \times 1\frac{1}{4}$
9479	32.40	$\frac{5}{8} \times 1\frac{1}{2}$
9480	42.40	$\frac{3}{4} \times 1\frac{1}{2}$



Strike for Nos. 10 $\frac{1}{2}$, 14 $\frac{1}{2}$ and 25

Corbin Transom Lifters

Wrought Steel



No.	Each	Diam. In.	Lgth. Ft.
093	\$1.05	1/4	3
094	1.25	5/16	4
095	1.65	3/8	4
095	1.90	3/8	5
095	2.10	3/8	6

EA is dull brass finish;
KF is imitation Bower
Barff finish.

Specify finish when
ordering.

No. 0200 1/2 Corbin Transom Chains



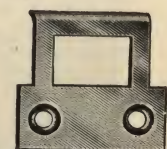
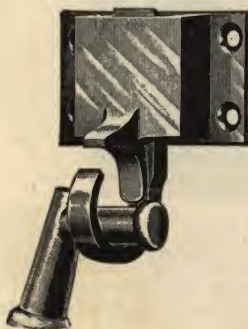
Wrought steel plated. Plates 1 3/4 x 1 inches.
No. 0200 1/2 EA, dull brass finish. No. 0200 1/2 B, bronze
plated.

Packed 12 in a box with screws.

Size.....inches	9	12	15
Per Dozen.....			
Weight per Dozen.....pounds	1 7/8	2 1/8	2 1/4

Payson Transom Catches

With Loose Bolt



3/4 Universal Strike



1/2 Rim Strike

The cut shows the action of the loose bolt when pulled
down by the hook. In closing the hook pushes against the
case, leaving the bolt loose and free to engage in the strike.

Packed 12 in a box, with screws.

Cast Iron

Furnished polished or unpolished, all finishes.

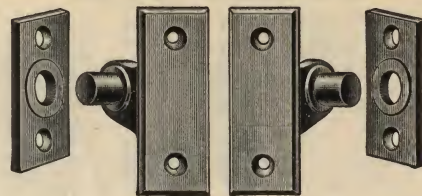
No.	With 3/4 Universal Strike	With 1/2 Rim Strike	Size Inches	Weight Pounds per Box
108 3/4		108 1/2	1 1/2 x 2 1/8	4
109 3/4		109 1/2	1 1/4 x 2 1/8	3 1/2
110 3/4		110 1/2	1 3/4 x 2 3/4	5 7/8

Cast Brass or Bronze

0108 3/4	0108 1/2	1 1/2 x 2 1/8	4
0109 3/4	0109 1/2	1 1/4 x 2 1/8	3 1/2
0110 3/4	0110 1/2	1 3/4 x 2 3/4	5 7/8

Prices upon request.

Corbin Sash or Transom Centers



Cast Brass or Bronze

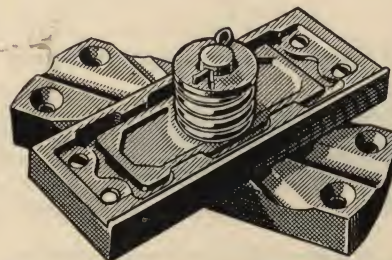
No.	Per Dozen Sets	Finish	Size Plate Inches	Diam. Pin Inches	No. Sets in Box	Wt. Lb. per Doz. Sets
1303 1/2	Polished	2 3/8 x 7/8	3/8	12	4 5/8
01303 1/2	Polished	2 7/8 x 1	1/2	12	8 1/8
1304 1/2	Polished	3 3/8 x 1 1/8	9/16	6	11 1/2

Cast Iron

C1303	.....	*Coppered	2 3/8 x 7/8	3/8	12	3 7/8
1303	.....	Plated	2 3/8 x 7/8	3/8	12	4 1/2
C01303	.....	*Coppered	2 7/8 x 1	1/2	12	6 3/4
01303	.....	Plated	2 7/8 x 1	1/2	12	7 1/8
C1304	.....	*Coppered	3 3/8 x 1 1/8	9/16	6	9 1/2
1304	.....	Plated	3 3/8 x 1 1/8	9/16	6	10 3/8

*Without screws; all others packed with screws.

Howarth Iron Friction Sash Centers

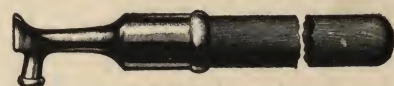


Packed 1 set in
a box. Stocked in
dead black finish.

Special finishes
of polished brass,
bronze, antique
copper or sanded
statuary brass can
be furnished at
prices listed under
special finish.

No.....	300A	300	301	302	303
Dead Black.....per set	\$1.00	1.00	1.15	1.40	1.70
Special Finish.....per set	1.80	1.80	2.00	2.20	2.55
For Sash.....inches	1 1/8	1 3/8	1 3/4	2	2 1/4

Window Pull Down Poles



Made to handle every type of window that must be raised
or lowered. The rubber cushion feature insures against
breakage of window panes.

Polished, imitation walnut finish.

Diameter of pole, 1 1/8 inches.

Packed 1 dozen in a bundle.

Length.....feet	5	6	7	8	10	12
With Brassed Hooks						
.....per dozen	\$6.30	7.20	8.10	9.00	11.70	15.00
With Hooks and Cushion						
Rubbers....per dozen	\$7.80	8.70	9.60	10.50	13.20	16.50
Weight per Dozen....lb.	19	21	28	34	39	..
Extra Rubber Cushions, Weight 1 Pound...per dozen	\$1.50					

Yale Sash Sockets

Nos. D1240 and B2240

Diameter, 1 inch; diameter of socket, 1/2
inch.

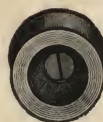
Packed 1 dozen in a box with screws.

No. D1240 x BY22, Wrought Bronze,

Dull Bronze Finish.....per doz.

No. B2240 x BY22, Wrought Steel, Dull

Bronze Finish.....per doz.

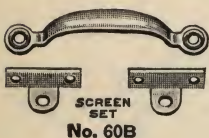
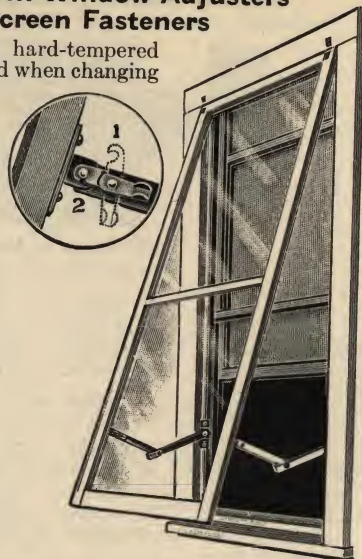


Wright Storm Window Adjusters and Screen Fasteners

Made of cold-rolled, hard-tempered steel. Easily disengaged when changing storm windows and screens. Adjusters remain on window frame.

Set consists of adjusters, handle, screws and No. 60B extra brackets and handle for screens. No. 60B brackets and handle may be purchased separately.

Packed 12 in a box.



No.	60	60B
Per Dozen.....	\$5.40	.60
Shipping Weight per Dozen..... pounds	7½	1¼

Stanley Wrought Steel Storm Sash Hangers

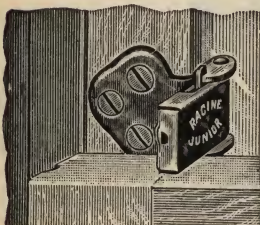


Made exceptionally strong. Easily fastened to window casing and sash. The No. 1720 is the same as No. 1716 except that the eyes are made without an offset, for use where storm sash is ½ in. thicker than casing. Hanger is 3½ in. long.

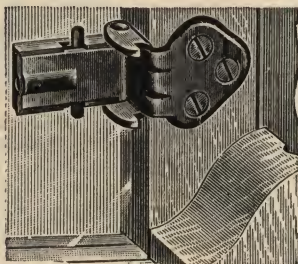
Packed one dozen pairs in a box with wood screws.

No.	1716	1720
J. Japanned..... per gross pairs	.....	.....
Z. Sherardized..... per gross pairs	.....	.....
Size Screws.....	¾ In. x7	¾ In. x7
Weight, per Dozen Pairs..... pounds	3½	3½

Racine Junior Ventilating Window Locks



Window Open but Locked



Lock Open

Of cold rolled steel. Used on flat or curved sash. Allows top or bottom sash to be opened for ventilation and can be thrown out of action instantly so as to open window to full height.

Packed 12 in a box with screws and complete application instructions. Weight per dozen, 2 pounds.

No. 15, Dull Brass Finish.....	each	\$.25
No. 12, Old Copper Finish.....	each	.25

No. 55 Corbin Casement Adjusters



For top or bottom of casements opening in or out. Mount on outside of casement opening in.

Made of wrought brass or bronze. Friction type; adjustable by means of knurled ring at end of tube.

Sash plate, 5/8x1 7/8 inches; sill plate, 3/4x2 1/4 inches; diameter bar, 3/8 inch; diameter tube, 5/8 inch. Distance from sill to top of sash plate, 7/8 inch.

Packed 6 in a box with screws.

Length (Closed)..... inches	8	10	12	15
No. 55, Polished..... per dozen	.....	.....	.....	.....
Extended Length Overall... inches	11¾	16¾	20½	26½
Weight per Dozen..... pounds	8	9	10¾	13½

Rixson Friction Stays



For doors, hinged windows swinging in, and transoms. Permits the door or window to open clear back against the wall, and the friction required is not enough to cause annoyance in opening and closing.

No. 33 For Doors and Hinged Windows

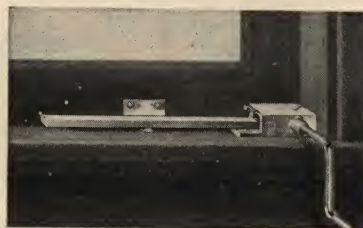
No. 33F2, Steel, Electro-Galvanized.....	each	\$.80
No. 33F3, Steel, Black Rustless.....	each	.80

No. 33½ For Transoms

For transoms 4 feet wide or over, two friction stays should be used. It is right or left hand, without any change.

No. 33½F2, Steel, Electro-Galvanized.....	each	\$1.00
No. 33½F3, Steel, Black Rustless.....	each	1.00

Rixson Casement Operators



For hinged windows swinging out. A window equipped with this device is always locked in any position and cannot be moved except by turning the handle and when it is closed, the window is held tight. Being of the screw type, it develops ample power to handle any ordinary kind of sash up to 30 inches wide.

The driving screw is of steel with double square threads, and the traveler that runs on this screw is of cast bronze and will not rust.

Slide which runs inside the arm is covered with fibre, making the device noiseless and reducing friction.

Can be used concealed or exposed.

Unless otherwise ordered, handles are furnished detachable and suitable for a stool 3 5/8 inches wide on the No. 94, and 5 1/2 inches wide on the No. 95.

State whether left-hand or right-hand handle is wanted. Also specify style of handle and if device is to be placed on top of stool or under stool. Give width of stool.

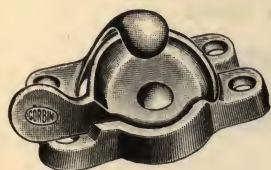
Packed 2 in a carton.

No.	94	95
Electro-Galvanized.....	each	\$3.00 \$3.75
Brass or Bronze, Dull or Bright.....	each	5.00 6.00

Handles

No. 5, Steel, Brass-Plated, Crank Handle.....	each	\$.30
No. 6, Steel, Brass-Plated, Tee Handle.....	each	.30
No. 7, Brass or Bronze Crank Handle.....	each	1.00
Nos. 8 or 9, Brass or Bronze Crank Handle.....	each	1.50

Corbin Sash Fasteners



No. 1829, Cast Iron

Size case, $\frac{7}{8} \times 2\frac{1}{2}$ inches; size strike, $\frac{9}{16} \times 2\frac{1}{2}$ inches. Made of plated cast iron.

Packed 12 in a box with screws.

Weight per dozen, $2\frac{1}{2}$ lbs.

No. EA1829, Dull Brass Finish.....per doz.
No. R1829, Antique Copper Finish.....per doz.
No. E1829, Nickel Plated Finish.....per doz.

Nos. 1829 $\frac{1}{2}$ and 1829 $\frac{3}{4}$: Cast Bronze

Size case, $\frac{7}{8} \times 2\frac{1}{2}$ inches; size strike, $\frac{9}{16} \times 2\frac{1}{2}$ inches. Made of cast bronze; No. 1829 $\frac{1}{2}$, polished; No. 1829 $\frac{3}{4}$, roll polish.

Packed 12 in a box with screws.

Weight per dozen, $2\frac{5}{8}$ pounds.

No. CR1829 $\frac{1}{2}$, Chromium Plated Finish....per doz.
No. EA1829 $\frac{3}{4}$, Dull Brass Finish.....per doz.
No. R1829 $\frac{3}{4}$, Antique Copper Finish.....per doz.
No. E1829 $\frac{3}{4}$, Nickel Plated Finish.....per doz.

No. 1830, Cast Iron

Size case, $1 \times 2\frac{5}{8}$ inches; size strike, $\frac{7}{8} \times 2\frac{5}{8}$ inches. Made of plated cast iron.

Packed 12 in a box with screws.

Weight per dozen, $2\frac{3}{4}$ pounds.

No. EA1830, Dull Brass Finish.....per doz.
No. R1830, Antique Copper Finish.....per doz.
No. E1830, Nickel Plated Finish.....per doz.

Nos. 1830 $\frac{1}{2}$ and 1830 $\frac{3}{4}$, Cast Bronze

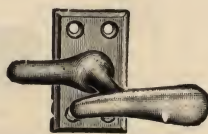
Size case, $1 \times 2\frac{5}{8}$ inches; size strike, $\frac{7}{8} \times 2\frac{5}{8}$ inches. Made of cast bronze; No. 1830 $\frac{1}{2}$, polished; No. 1830 $\frac{3}{4}$, roll polish.

Packed 12 in box with screws. Weight per doz., $3\frac{1}{8}$ lbs.

No. CR1830 $\frac{1}{2}$, Chromium Plated Finish....per doz.
No. EA1830 $\frac{3}{4}$, Dull Brass Finish.....per doz.
No. R1830 $\frac{3}{4}$, Antique Copper Finish.....per doz.
No. E1830 $\frac{3}{4}$, Nickel Plated Finish.....per doz.

Corbin Casement Window Fasteners

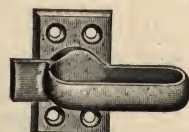
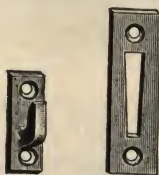
Reversible



Mortise (M) Surface (S) Rim (R)

Plate, $1\frac{1}{8} \times 1\frac{1}{8}$ inches. Dull brass finish.

Description	CAST IRON		CAST BRASS	
	No.	Per Dozen	No.	Per Dozen
Rim Strike.....	03170R	\$3.00	02170R	\$8.00
Surface Strike...	03170S	3.00	02170S	8.00
Mortise Strike..	03170M	3.00	02170M	8.00



Rim (R) Surface (S) Mortise (M)

Plate, $1\frac{1}{4} \times 2$ inches. Dull brass finish.

Rim Strike.....	3164R	\$6.65	2164R	\$13.90
Surface Strike...	3164S	6.65	2164S	13.90
Mortise Strike..	3164M	6.65	2164M	13.90

Our Contractors Equipment Department has a solution for your construction problem.

Corbin Bar Sash Lifts



No. 03296, Cast Iron

Size $1\frac{1}{8} \times 4$ inches; projection, $1\frac{1}{8}$ inches. Made of plated cast iron.

Packed 12 in a box with screws.

Weight per dozen, $1\frac{3}{4}$ pounds.

No. EA03296, Dull Brass Finish.....per gross
No. E03296, Nickel Plated Finish.....per gross

No. 09296, Cast Bronze

Size $1\frac{1}{8} \times 4$ inches; projection, $1\frac{1}{8}$ inches. Made of polished cast bronze.

Packed 12 in a box with screws.

Weight per dozen, 2 pounds.

No. EA09296, Dull Brass Finish.....per doz.
No. E09296, Nickel Plated Finish.....per doz.

No. 3296, Cast Iron

Size $1\frac{3}{8} \times 5$ inches; projection, $1\frac{5}{8}$ inches. Made of plated cast iron.

Packed 12 in a box with screws; 24 dozen in a case.

Weight per dozen, 3 pounds.

No. EA3296, Dull Brass Finish.....per gross
No. E3296, Nickel Plated Finish.....per gross

No. 9296, Cast Bronze

Size $1\frac{3}{8} \times 5$ inches; projection, $1\frac{5}{8}$ inches. Made of polished cast bronze.

Packed 12 in a box with screws; 24 dozen in a case.

Weight per dozen, $3\frac{1}{4}$ pounds.

No. EA9296, Dull Brass Finish.....per doz.
No. E9296, Nickel Plated Finish.....per doz.

Ives Stop Bead Screws and Washers



Screws, $1\frac{1}{4}$ inch No. 8 flat head. Washers $\frac{5}{16}$ inch diameter. Packed with screws, one gross in a box, 50 gross in a case.

Wrought Steel

No. SW39, Antique Copper.....per gross \$1.30
No. SW37, Dull Brass.....per gross 1.30
No. SW60, Nickel Plated.....per gross 1.45

Wrought Bronze or Brass

No. SW50, Antique Copper.....per gross \$3.00
No. SW51, Dull Brass.....per gross 3.00
No. SW42, Nickel Plated.....per gross 3.30

No. 51 Sargent Wrought Steel Hand Rail Screws

One Nut



Made of $\frac{5}{16}$ -inch steel. Rolled thread.

Packed 36 in a box.

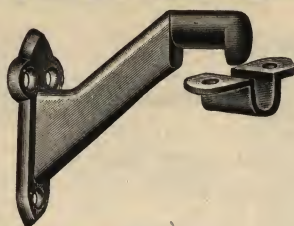
Length.....inches 4 $4\frac{1}{2}$ 5
No. 51.....per gross \$8.00 9.00 10.00
Approx. Weight per Gross.....pounds $3\frac{3}{4}$ 4 $4\frac{1}{2}$

No. 52 Wrought Hand Rail Screws



Made of $\frac{5}{16}$ -inch steel. Two nuts. Packed 36 in a box.
Size.....inches 4 $4\frac{1}{2}$ 5
Price.....per gross \$9.00 10.00 11.00

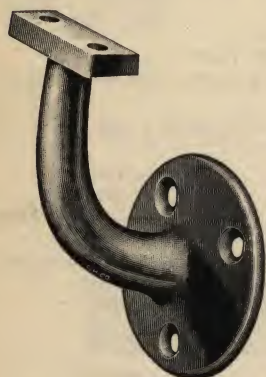
No. 100½ Corbin Hand Rail Brackets



Made of cast iron, unpolished.
From base to center of rail, 2¾ inches.
Packed one dozen in a box, with screws.

No.	Base Inches	Finish	Wt., Lbs. per Doz.	Per Doz.
Y100½	1⅞x3	Amber	5¾	.....
R100½	1⅞x3	Antique Copper	5¾	.....
EA100½	1⅞x3	Brass Pltd., Dull	5¾	.....

No. 8400 Champion Hand Rail Brackets



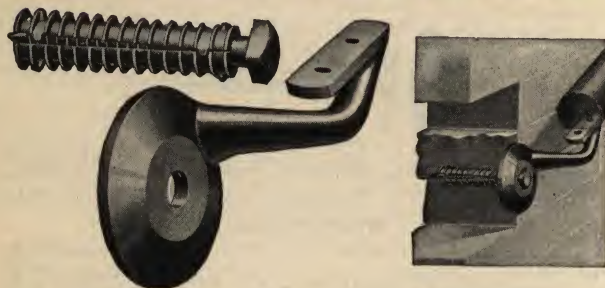
Made of one piece planished iron, is easy to apply and can be adjusted to any position.

Base to center of rail, 2 inches.

Packed with screws, 12 in a box. Weight per box, 5 pounds.

No.	Finish	Per Doz.
8400B	Antique Copper	\$2.40
8400C	Dull Brass	2.40
8400H	Dead Black	2.70
8400SK	Oxidized Sanded Brass	2.70
8400J	Japanned	2.10

No. 666 R-W Holdtite Stair Rail Brackets



Made of malleable iron. The 3-inch base assures a good bearing on the wall and the bracket is securely held by a ½x4-inch expansion bolt.

Head of lag screw finished to match bracket.

The projection of the rail is 3 inches to center.

FINISHES: Black enamel regular. Also furnished bronze plated, antique copper, lemon brass and antique brass plated on unpolished or polished iron.

Can be furnished made of brass or bronze metal. Price on application.

When ordering, state whether unpolished or polished finish is desired.

Packed 12 in box with expansion bolts.

No.	Finish	Regular Per Dozen	Unpolished Per Dozen	Polished Per Dozen
666	Black Enamel	\$9.00		
666	Bronze Plated		\$13.20	\$23.75
666	Antique Copper Plated		13.20	23.75
666	Lemon Brass		13.20	23.75
666	Antique Brass Plated		13.20	23.75

No. Sc1078 Stanley Wrought Steel Light Barrel Bolts



Japanned with brass plated bolt and knob.
Packed 1 dozen in a box with wood screws.

Length Inches	Per Dozen	Width Plate Inches	Screw Holes in Plate	Size Wood Screws	Net Wt., Lbs. per Dozen
2½	1	6	5/8x4	1½
3	1½	7	3/4x5	2¾
4	1½	7	3/4x5	3½
5	1½	7	3/4x7	5½
6	1½	9	3/4x7	6½

No. Sc1084 Stanley Wrought Steel Heavy Barrel Bolts



Japanned with brass-plated bolt and knob.

With wood screws.

Length.....in.	3	4	5	6	8
Per Dozen.....	.....	.....	.....	.....	.....
Width Plate.....in.	1½	1½	1½	1½	1½
Screw Holes in Plate.....	7	7	7	9	9
Size Wood Screws.....	¾x6	¾x6	7/8x7	7/8x7	1x8
No. in Box.....	12	12	12	6	3
Net Wt. per Dozen.....lbs.	4¼	4¾	6¾	7¾	17

No. 1102 Wrought Steel Square Neck Bolts



Furnished with sherardized steel springs.

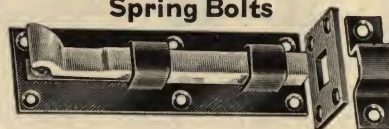
Japanned plates and polished bolts.

Furnished without screws.

Packed six in a box.

Size In.	No. Screw Holes	Size of Screws	Doz. in Case	Wt. per Doz. Lbs.	Wt. per Case Lbs.	Price per Doz.
4	4	1x7	25	5	132	.....
6	6	1x8	15	10½	175	.....
8	8	1x8	5	17¾	105	.....

No. 1088 Stanley Wrought Steel Square Spring Bolts



Has heavy steel springs. Japanned plates; cadmium-plated bolts. Furnished with strikes. Packed without screws.

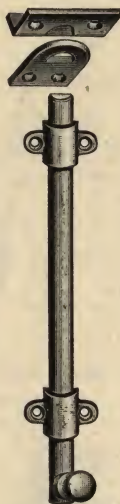
Size In.	Per Dozen	No. of Screw Holes	Size of Screw	Size Bolt Inches	No. in Box	Weight, Pounds per Doz.
3	4	5/8x5	5/16x5/16	12	2¾
4	4	¾x6	3/8x3/8	12	4¾
5	6	¾x7	3/8x3/8	12	5½
6	6	1 x8	1/2x1/2	12	10½
8	8	1 x9	5/8x5/8	6	17
10	8	1 x9	3/4x3/4	3	30½
12	8	1 x9	3/4x3/4	3	36½

Corbin Surface Door Bolts

Nos. EA1578 and EA3578 are made of $\frac{3}{8}$ -inch half round rod; Nos. EA1580 $\frac{1}{2}$ and EA3580 $\frac{1}{2}$ are made of $\frac{1}{2}$ -inch half round rod.

Dull brass finish.

Lgth In.	PER DOZEN			
	WROUGHT BRASS		WROUGHT STEEL	
	No. EA1578	No. EA1580 $\frac{1}{2}$	No. EA3578	No. EA3580 $\frac{1}{2}$
3	\$6.20	.....	\$3.20	.....
6	7.20	\$9.80	3.45	\$3.55
9	....	12.20	....	4.20
12	....	13.35	....	5.35



Corbin Extension Flush Bolts

Cast Brass, Polished

The length of extension flush bolt is measured from pivot pin of operating member to end of bolt head when retracted.

Dull brass finish. State size.

Rods packed separate.

No. 2659

Size plate, $5\frac{7}{8} \times \frac{5}{8}$ inches.

Packed 6 in a box with screws.

Length.....in.	6	12	18
No. EA2659.....each	....	6 $\frac{3}{4}$	7 $\frac{1}{4}$
Wt. per Doz.....lbs.	6	6 $\frac{3}{4}$	7 $\frac{1}{4}$

No. 2859

Size plate, $6\frac{3}{4} \times 1\frac{1}{4}$ inches.

Packed 2 in a box with screws.

Length.....in.	6	12	18	24
No. EA2859.....each	....	12 $\frac{1}{4}$	13 $\frac{1}{2}$	14 $\frac{3}{4}$
Wt. per Doz.....lbs.	12 $\frac{1}{4}$	13 $\frac{1}{2}$	14 $\frac{3}{4}$	16



No. 1096 Stanley Wrought Steel Case Bolts



Size 3 inches packed 1 dozen in a box; sizes 4 and 6 inches, 6 in a box; all with wood screws.

Furnished with strikes as illustrated.

Size Inches	No. of Dozen in a Case	WEIGHT, POUNDS		PRICE, PER DOZEN		
		Per Dozen	Per Average Case	J Japanned	J1 Dead Black Japanned	ZJ1 Dead Black Japanned Sherardized
3	10	6 $\frac{1}{2}$	74	....	....	....
4	10	12 $\frac{1}{2}$	133	....	....	....
6	10	14 $\frac{1}{2}$	152	....	....	....

No. 1697 Window Spring Bolts



For locking sash in closed or open position, or for use on stationary screens. Cadmium-plated, with zinc case and brass coil spring. Packed 5 gross in a case.

Price, Length, $3\frac{1}{4}$ Inches.....per gross

Price, Length, $3\frac{3}{4}$ Inches.....per gross

Corbin Door Stops

For Floor



Height, $1\frac{5}{8}$ inches; base, $1\frac{3}{8}$ inches in diameter. With rubber tip.

Packed 12 in a box with screws.

Weight per dozen, 2 pounds.

No. 354, Cast Iron, Plated

No. EA354, Dull Brass Finish.....per doz.

No. R354, Antique Copper Finish.....per doz.

No. E354, Nickel Plated Finish.....per doz.

No. 354 $\frac{1}{2}$, Cast Bronze, Polished

No. EA354 $\frac{1}{2}$, Dull Brass Finish.....per doz.

No. E354 $\frac{1}{2}$, Nickel Plated Finish.....per doz.

No. 4300 Champion Cast Base Knobs



Made of planished iron with steel screw.

The rubber tip is easily replaced.

Projection, $2\frac{5}{8}$ inches.

Packed 12 in a box. Weight per box, $1\frac{1}{4}$ pounds.

No. 4300B, Antique Copper-Plated.....per gross

No. 4300C, Dull Brass-Plated.....per gross

No. 4300H, Dead Black-Plated.....per gross

No. 4300N, Nickel-Plated.....per gross

No. 4300SK, Oxidized Sanded Brass.....per gross

No. 8510 Champion Heavy Cast Base Knobs



Made of extra heavy cast planished iron.

Hexagon head makes attaching easy.

Projection, $3\frac{1}{8}$ inches.

Packed 12 in a box. Weight per box, $2\frac{1}{4}$ pounds.

No. 8510B, Antique Copper-Plated.....per gross

No. 8510C, Dull Brass-Plated.....per gross

No. 8510H, Dead Black-Plated.....per gross

No. 8510N, Nickel-Plated.....per gross

No. 8510SK, Oxidized Sanded Brass.....per gross

Superior Door Holders

This door holder holds the door open at any position, and holds the door firmly in both directions.

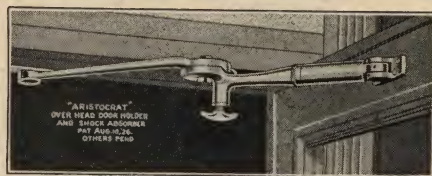
Made in three sizes, and in any finish.



Ht. In.	Reach In.	IRON DULL BLACK		IRON UNPOLISHED DULL BRASS	
		No.	Per Dozen	No.	Per Dozen
5 $\frac{1}{2}$	1 $\frac{1}{4}$	1	\$10.80	0521	\$12.00
7	1 $\frac{1}{2}$	2	12.00	0522	13.80
9	2 $\frac{1}{2}$	3	16.00	0523	18.00

Ht. In.	Reach In.	IRON POLISHED DULL BRASS		BRASS METAL BRONZE METAL	
		No.	Per Dozen	No.	Per Dozen
5 $\frac{1}{2}$	1 $\frac{1}{4}$	521	\$14.40	71	\$21.00
7	1 $\frac{1}{2}$	522	16.80	72	27.00
9	2 $\frac{1}{2}$	523	22.00	73	36.00

Aristocrat Overhead Door Holders



Prevents doors opening beyond given point. Encased shock absorber relieves strain on door and pivots.

Packed 2 in a box.

No.	Mall. Iron Gilt Each	Mall. Iron Plated Each	Cast Bronze Pol. or Dull Each	For Doors Width Inches	Weight Pounds per Box
01	\$10.00	\$12.00	\$14.00	24 to 29	7 1/4
02	10.00	12.00	14.00	30 to 35	8
03	10.00	12.00	14.00	36 or Over	8 3/4

G-J80 Series Overhead Door Holders



Can be installed to hold the door at various degrees of opening, up to 115 degrees.

Action is automatic in the engagement and release of the door. A turn of the control handle places the engagement in neutral position. The holder then serves as stop and shock absorber. Bronze housing contains resilient spring to relieve the strain on the door and hardware, and to provide anchorage to the door. When ordering specify hand of door.

Steel Pol. or Dull No.	Steel Bronze Plated No.	Steel Gilt Finish No.	For Doors Width Inches	Wt. Lb.
G-J80 \$9.50	G-J83 \$8.50	G-J86 \$7.50	26 to 29	3
G-J81 9.50	G-J84 8.50	G-J87 7.50	30 to 35	3
G-J82 9.50	G-J85 8.50	G-J88 7.50	36 to 48	3

Hercules Door Holders

Made of cast bronze or brass.

Equipped with slip-proof threaded in rubber shoe.

Holder is held upright by a fool-proof enclosed action.

Packed 6 in a box.

No.	Dull or Polished	No.	Emery or Dead Black
4	5	4-S	
Per Dozen \$24.00	26.00	Per Dozen \$19.20	
Floor Clearance... in.	2 or Less	3 1/2 or Less	
Height... in.	4	5	
Wt. Box. lb.	3 1/2	3 3/4	

No.	Polished or Brushed	No.	Emery Finish
44	45	44A	45A
Per Dozen \$19.20	21.60	Per Dozen \$16.80	18.00
Floor Clearance... in.	2 or Less	3 1/2 or Less	
Height... in.	4	5	
Wt. Box. lb.	2 3/4	3	

Excel Door Holders

Made of cast bronze or brass.

Equipped with slip-proof threaded in rubber shoe.

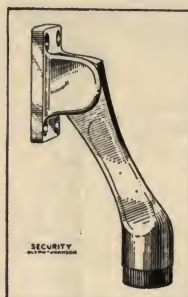
Packed 1/2 dozen in a box.



No.	Polished or Brushed	No.	Emery Finish
44	45	44A	45A
Per Dozen \$19.20	21.60	Per Dozen \$16.80	18.00
Floor Clearance... in.	2 or Less	3 1/2 or Less	
Height... in.	4	5	
Wt. Box. lb.	2 3/4	3	

No.	Polished or Brushed	No.	Emery Finish
44	45	44A	45A
Per Dozen \$19.20	21.60	Per Dozen \$16.80	18.00
Floor Clearance... in.	2 or Less	3 1/2 or Less	
Height... in.	4	5	
Wt. Box. lb.	2 3/4	3	

No. 444 Security Door Holders



An inexpensive holder made of heli-crome iron for holding all types of doors open. The operation is by merely raising or lowering the lever with the foot. Threaded-in rubber shoe.

The ample shoulder acts as an additional support to prevent the shoe from being forced out of the holder.

Base, 1 1/2 x 2 inches; stem, 4 inches. Dead black and brass gilt and bronze gilt finish.

1 Doz. in Display Box with Wood Screws; Wt., 9 Lbs... per doz. \$9.00
1/2 Doz. in Display Box with Wood Screws; Wt., 4 1/2 Lbs. per 1/2 doz. 4.50
6 in Shelf Box. per 1/2 doz. 4.50

Rubber Shoes

For Hercules, Excel and Security door holders.

Holder cuts own thread in shank of shoe.

Packed 12 in a box.

Per Dozen. \$2.25

Plunger Type Door Holders



Holds door by pressure of foot on stem of the plunger; released by trip plate at the top. Has double spring tension for gripping floor.

Rubber shoe, which is held in place by threaded band screwed onto plunger stem, will not tear or pull out of holder.

No. 1150

Made of cast bronze or brass. Size, 7 inches. Throw, 1 1/4 inches.

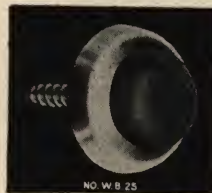
Dull or polished finish.
No. 1150. each \$3.75

No. 1151

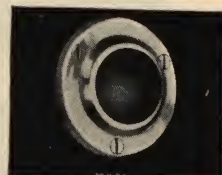
Made of iron. Size, 7 inches. Throw, 1 1/4 inches.

Black or brass gilt finish.
No. 1151. each \$2.25

Flush Bumpers



No. WB-25



Nos. WB-5 and WB-55

Made of bronze or brass. Molded rubber bumper is inserted from the back into a flange rosette.

Rosette is screwed into a threaded disk which is anchored to the door or wall.

No.	Per Dozen	Size Base Inches	Projection Inches	Description	No. in Box	Weight Pounds per Box
WB-25	\$5.40	1	1 1/2	Wood Screw	12	3 1/4
WB-25	*5.95	1	1 1/2	Wood Screw	12	3 1/4
WB-5	14.40	2 3/8	1	Wood Screw	6	1 3/4
WB-5X	18.00	2 3/8	1	Expansion Shield	6	1 3/4
WB-55	25.20	4	3/4	Wood Screw	6	3 1/2
WB-55X	28.80	4	3/4	Expansion Shield	6	4

*Nickel plated.

Semi-Automatic Door Holders and Bumpers

Engages and releases door automatically. By flipping, the tongue acts as a stop and resilient bumper due to encased plunger. Hook extension acts as strike plate.



No. F-9

Made of cast bronze or brass.

No.	With Wood Screws		With Steel Stud and Shield	
	F-8	F-9	F-10	
Each.....	\$5.00	5.50	12.50	
Height...in.	3 1/4	3 1/4	5	
Base...in.	2 3/4	2 3/4	5	
Stud...in.	...	1 1/2	5/8	
No. in Box.	6	4	2	
Wt. Box.lb.	7 3/4	7	11	



No. F-20 X

Door Holders and Bumpers Floor Type

Made of cast bronze or brass. Height overall, 3 inches. Height to center of bumper, 2 3/8 inches. Size base, 3x2 1/2 inches.

Design of holder eliminates side thrust. Two-point anchorage assures permanent installation.

Equipped with loss-proof threaded in rubber bumper.

Brushed or polished finish.

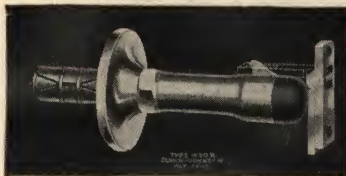
Packed 6 in a box.

Weight per box, 6 pounds.

No. F-20, with Wood Screws.....each \$2.75
No. F-20X, with Stud and Expansion Shields....each 3.25

Door Holders and Bumpers

Wall Type



No. W-20X

Made of cast bronze or brass. Projection, 3 1/2 inches, with hook engaged, 4 inches. Diameter of base, 2 1/2 inches.

Collapsible strike plate hook does not protrude; breakage is eliminated.

Equipped with loss-proof threaded in rubber bumper. Brushed or polished finish.

Packed 6 in a box. Weight per box: No. W-20, 6 pounds; No. W-20X, 7 1/2 pounds.

No. W-20, with Wood Screw.....each \$2.75
No. W-20X, with 5/16-Inch Steel Stud and Shield...each 3.25

Pneumatic Rubber Door Silencers



No. G-J64 For Metal Frames



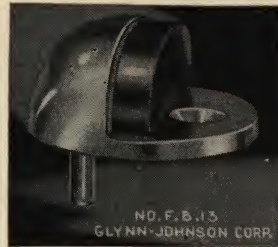
No. G-J65 For Wood Frames

For silencing doors and latch rattle.

Install 3 silencers per door in stop strip. Black or white rubber. Instructions packed with silencers.

No. G-J64, for Metal Frames.....per dozen \$1.20
No. G-J65, for Wood Frames.....per dozen 1.20

Dome Type Door Bumpers



No. FB-13

Facilitates sweeping and cleaning. Made of cast bronze or brass. Designed for permanent anchorage.

Type FB-13 for doors without threshold; Type FB-14 for doors with threshold.

Dull or polished finish.

Packed 12 in a box.

No.	With Wood Screw		With Expansion Shell	
	FB-13	FB-14	FB-13X	FB-14X
Per Dozen.....	\$12.00	13.20	13.80	15.00
Height.....inches	1	1 1/4	1	1 1/4
Size Base.....inches	2 1/8	2 1/8	2 1/8	2 1/8
Weight Per Box	4 3/4	6 1/4	4 3/4	7

Sturdy Door Bumpers



No. FB-18X

Made of cast brass or bronze with threaded in rubber tip. Two-point anchorage; will not twist out of alignment.

No.	Per Dozen	Height Inches	Base Inches	Description	No. in Box	Wt. Lb. per Box
FB-15	\$8.40	1 1/4	1 1/4	Wood Screws.....	12	2 1/4
FB-15X	11.40	1 1/4	1 1/4	Expansion Shell...	12	2 1/4
FB-18	21.60	2 1/8	2 1/8	Wood Screws.....	6	2 1/2
FB-18X	25.20	2 1/8	2 1/8	Expansion Shell...	6	2 1/2
FB-20	25.20	3	2 3/4 x 1 3/4	Wood Screws.....	6	6
FB-20X	28.80	3	2 3/4 x 1 3/4	Expansion Shell...	6	6

Wall Bumpers



No. WB-9

For residential and commercial buildings equipped with loss-proof threaded-in rubber bumper.

Cast Bronze or Brass

No.	Per Dozen	Size Base Inches	Projection Inches	Description	No. Weight in Pounds Box per Box
WB-8	\$8.40	1 5/8	1 3/4	Wood Screw	12 3 1/4
WB-9	8.40	1 5/8	3 1/8	Wood Screw	12 3 1/4
WB-9 1/2	9.40	1 5/8	4	Wood Screw	12 4

Heavy Duty Cast Bronze or Brass

WB-10	\$19.20	2	2 1/2	Wood Screw	6 2 1/2
WB-10X	21.60	2	2 1/2	Expansion Bolt	6 2 3/4
WB-11	21.60	2	3 3/4	Wood Screw	6 3
WB-11X	24.00	2	3 3/4	Expansion Bolt	6 3 1/2

McKinney Butt Hinges

No. A3313 Oiltite Bearing No. B3313 Ball Bearing
Loose Pin—Ball Tip



Recommended for wood doors of medium weight and average frequency.

Made of wrought bronze or brass; highly polished. Self-lubricating, non-rising pin.

The inner edges of the leaves are beveled to conform to the radius of the barrel of the hinge, and the outer edges are ground square.

All sizes are equipped with two bearings to carry the vertical load.

Furnished in 3x3, 3½x3½, 4x4, 4½x4½, 5x5, and 6x6-inch sizes. Available in all standard finishes.

Packed 1 pair in box with screws.

Prices furnished upon application.

McKinney Wrought Steel Butt Hinges

No. A2714 Oiltite Bearing No. B2714 Ball Bearing
Loose Pin—Ball Tip



Recommended for wood doors of medium weight and average frequency.

Made of wrought steel.

Self-lubricating, non-rising pin.

All sizes are equipped with two bearings to carry the vertical load.

Furnished in 3x3, 3½x3½, 4x4, 4½x4½, 5x5, and 6x6-inch sizes.

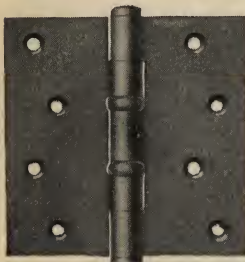
Available in all standard finishes.

Packed 1 pair in a box with screws.

Prices furnished upon application.

McKinney Wrought Steel Butt Hinges

No. A714½PC Oiltite Bearing No. B714½PC Ball Bearing
Loose Pin—Button Tip



For wood doors of medium weight and average frequency.

Made of wrought steel. Self-lubricating, non-rising pin.

The inner edges are cut back to allow sufficient clearance so that the paint on the barrel of the hinge is not defaced by the operation of the door.

All sizes are equipped with two bearings to carry the vertical load.

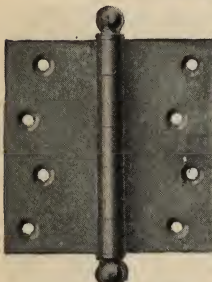
Furnished in 3x3, 3½x3½, 4x4, 4½x4½, 5x5, and 6x6-inch sizes. For painting.

Packed 1 pair in a box with screws.

Prices furnished upon application.

No. 3313 McKinney Butt Hinges

Steel Bushed—Loose Pin—Ball Tip



Recommended for lightweight wood doors in residences and other buildings where the frequency is not great.

Made of wrought bronze or brass; highly polished. Non-rising case-hardened pin.

The inner edges of the leaves are beveled to conform to the radius of the barrel of the hinge, and the outer edges are ground square.

Furnished in 2½x2½, 3x3, 3½x3½, 4x4, 4½x4½, 5x5, and 6x6-inch sizes.

Available in all standard finishes.

Packed 1 pair in a box with screws.

Prices furnished upon application.

No. 2714 McKinney Wrought Steel Butt Hinges

Plain Bearing—Loose Pin—Ball Tip



Recommended for light wood doors in residences and other buildings where the frequency is not high.

Made of wrought steel.

Non-rising pin.

Furnished in 2x2, 2½x2½, 3x3, 3½x3½, 4x4, 4½x4½, 5x5, and 6x6-inch sizes.

Available in all standard finishes.

Packed 1 pair in a box with screws.

Prices furnished upon application.

No. 714½PC McKinney Wrought Steel Butt Hinges

Plain Bearing—Loose Pin—Button Tip



Recommended for light doors in residences and other buildings where frequency is not high.

Made of wrought steel. Non-rising pin.

The inner edges are cut back to allow sufficient clearance so that the paint on the barrel of the hinge is not defaced by the operation of the door.

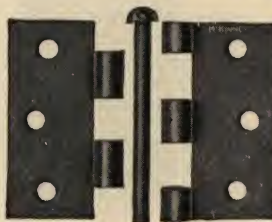
Furnished in 2½x2½, 3x3, 3½x3½, 4x4, 4½x4½, 5x5, and 6x6-inch sizes. For painting.

Packed 1 pair in a box with screws.

Prices furnished upon application.

McKinney Wrought Steel Butt Hinges

Loose Pin—Reversible



No. 703

Plain steel.

Furnished in 2x2, 2½x2½, 3x3, 3½x3½, 4x4, 4½x4½, 5x5, and 6x6-inch sizes.

Supplied without screws.

Prices furnished upon application.

No. SC703G-BR

Hot galvanized. With brass pin.

Furnished in 2x2, 2½x2½, 3x3, 3½x3½, 4x4, 4½x4½, 5x5, and 6x6-inch sizes.

Supplied with screws.

Prices furnished upon application.

McKinney Wrought Steel Broad Butt Hinges

Fast Pin



No. 705

Plain steel.

Furnished in 2x2, 2½x2½, 3x3, 3½x3½, 4x4, 4½x4½, 5x5, and 6x6-inch sizes.

Supplied without screws.

Prices furnished upon application.

No. SC705G-BR

Hot galvanized. With brass pin.

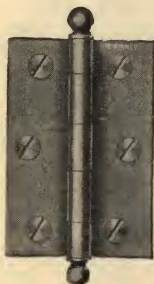
Furnished in 2x2, 2½x2½, 3x3, 3½x3½, 4x4, 4½x4½, 5x5, and 6x6-inch sizes.

Supplied with screws.

Prices furnished upon application.

No. 3322 McKinney Narrow Butt Hinges

Loose Pin—Ball Tip



Recommended for light cabinet work such as cupboards, bookcases, china closets, and medicine cabinets.

Made of wrought bronze or brass; highly polished.

Furnished in 1½, 2, 2½, and 3-inch sizes.

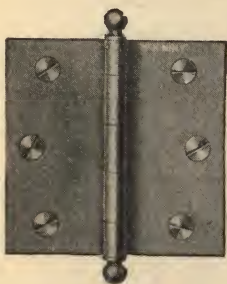
Available in all standard finishes.

Packed 6 pairs in a box with screws.

Prices furnished upon application.

No. 3318 McKinney Cabinet Butt Hinges

Loose Pin—Ball Tip



Recommended for all light cabinet work such as cupboards, bookcases, china closets, and medicine cabinets.

Made of wrought bronze or brass; highly polished.

Furnished in 2x2, 2½x2, 2½x2½, 3x2½, and 3x3-inch sizes.

Available in all standard finishes.

Packed 6 pairs in a box with screws.

Prices furnished upon application.

No. 2705 McKinney Wrought Steel Transom Butt Hinges

Fast Pin



Recommended for use on transoms, casement sash and light-weight doors requiring fast pin hinges.

Made of wrought steel.

Furnished in 2x2, 2½x2½, 3x3, 3½x3½, and 4x4-inch sizes.

Available in all standard finishes.

Supplied with screws.

Prices furnished upon application.

No. 706 McKinney Wrought Steel Blank Hinges

Flat Back—Fast Pin



Recommended for iron shutters, gates, and jail cell doors. The leaves may be cut off and holes drilled to meet requirements.

Made of extra heavy wrought steel.

This hinge can also be furnished with loose pin or for mortise work, if so specified.

Size.....inches	3x3	3½x3½	4x4	4½x4½	5x5	6x6
Gage.....	.130	.146	.160	.170	.180	.203

Prices furnished upon application.

No. 2722 McKinney Wrought Steel Narrow Butt Hinges

Loose Pin—Ball Tip



Recommended for light cabinet work such as cupboards, bookcases, china closets, and medicine cabinets.

Made of wrought steel.

Furnished in 1½, 2, 2½, and 3-inch sizes.

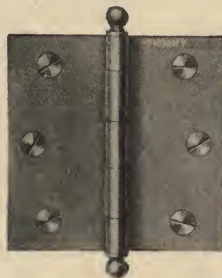
Available in all standard finishes.

Packed 6 pairs in a box with screws.

Prices furnished upon application.

No. 2718 McKinney Wrought Steel Cabinet Butt Hinges

Loose Pin—Ball Tip



Recommended for all light cabinet work such as cupboards, bookcases, china closets, and medicine cabinets.

Made of wrought steel.

Furnished in 2x2, 2½x2, 2½x2½, 3x2½, and 3x3-inch sizes.

Available in all standard finishes.

Packed 6 pairs in a box with screws.

Prices furnished upon application.

No. 722½PC McKinney Wrought Steel Narrow Butt Hinges

Loose Pin—Button Tip



Recommended for light cabinet work such as cupboards, bookcases, china closets, and medicine cabinets.

Made of wrought steel.

The inner edges are cut back to allow sufficient clearance so that the paint on the barrel of the hinge is not defaced by the operation of the door.

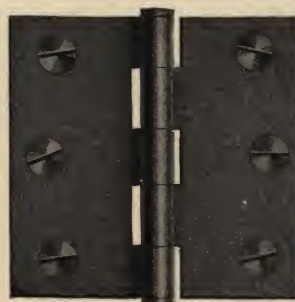
Furnished in 2, 2½, and 3-inch sizes. For painting.

Packed 6 pairs in a box with screws.

Prices furnished upon application.

No. 718½PC McKinney Wrought Steel Cabinet Butt Hinges

Loose Pin—Button Tip



Recommended for all light cabinet work such as cupboards, china closets, bookcases and medicine cabinets.

Made of wrought steel.

The inner edges are cut back to allow sufficient clearance so that the paint on the barrel of the hinge is not defaced by the operation of the door.

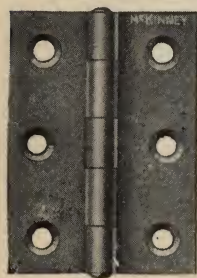
Furnished in 2x2, 2½x2, 2½x2½, 3x2½, and 3x3-inch sizes. For painting.

Packed 6 pairs in box with screws. Prices on application.

No. 719 McKinney Wrought Steel Cabinet Butt Hinges

Fast Pin

For wood doors and wood trim.
Light narrow butt hinge.
Furnished without screws.

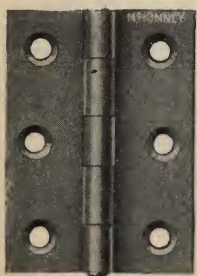


Size Inches	Plain Steel per Doz. Pairs	Width Open Inches	Size Screws	Wt. Lb. per Dozen Pairs
1	1	1/2x3	1 1/2
1 1/4	1 1/16	5/8x4	5/8
1 1/2	1 1/16	5/8x5	1
1 3/4	1 1/16	5/8x5	1 1/4
2	1 9/16	3/4x6	1 3/4
2 1/2	1 11/16	3/4x6	2 1/2
3	2	3/4x7	3 3/4
3 1/2	2 1/4	3/4x8	6
4	2 7/8	1 x9	8 1/2

No. 700 McKinney Wrought Steel Cabinet Butt Hinges

Fast Pin

For wood doors with wood jambs.
Narrow butt hinge. Sizes 2 1/2 inches and larger have five
knuckles; smaller sizes, three.



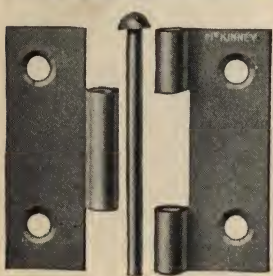
Furnished without screws.

Size Inches	Plain Steel per Doz. Pairs	Width Open Inches	Size Screws	Wt. Lb. per Dozen Pairs
1	1 3/16	5/8x5	5/8
1 1/4	1 5/16	3/4x6	1
1 1/2	1 1/2	3/4x6	1 3/8
1 3/4	1 9/16	3/4x6	1 5/8
2	1 3/4	3/4x7	2 3/8
2 1/2	1 7/8	3/4x7	3 3/8
3	2 1/8	3/4x8	4 3/4
3 1/2	2 3/8	1 x9	7 3/8

No. 721 McKinney Wrought Steel Cabinet Butt Hinges

Loose Pin

For wood doors with wood jambs.
Light narrow butt hinge. Sizes 2 1/2 inches and larger have
five knuckles; smaller sizes, three.



Furnished without screws.

Size Inches	Plain Steel per Doz. Pairs	Width Open Inches	Size Screws	Wt. Lb. per Dozen Pairs
1	1	1/2x3	1 1/2
1 1/2	1 1/16	5/8x5	1
1 3/4	1 1/16	5/8x5	1 1/4
2	1 9/16	3/4x6	1 3/4
2 1/2	1 11/16	3/4x6	2 1/2
3	2	3/4x7	3 3/4
3 1/2	2 1/4	3/4x8	6
4	2 7/8	1 x9	8 1/2

No. 709 McKinney Wrought Steel Swaged Back Flaps



For wood doors and wood trim.

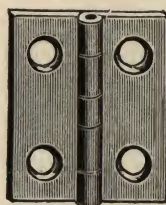
Furnished swaged. If de-
sired flat back, specify on or-
dering; prices same as regular.
Furnished without screws.

Size Inches	Plain Steel per Dozen Pairs	Width Open Inches	Size Screws	Wt. Lb. per Dozen Pairs
3/4	2 3/4	3/4x6	1 1/4
1	2 7/8	3/4x6	1 1/2
1 1/8	3	3/4x6	1 3/4
1 1/4	3 1/4	3/4x7	2 1/4
1 1/2	3 1/16	3/4x8	3
1 3/4	4	3/4x8	4
2	4 3/8	3/4x8	4 7/8

Narrow Wrought Brass Butts

Packed without screws.

For Four Screws



Lgth. In.	Per Doz. Pairs	Width Open In.	Gage No.	Screw No.	Doz. Pr. In Box	Wt. Box Lb.
1/2	\$.24	1/2	.027	0	6	7/16
3/4	.28	1 1/16	.033	2	6	1 1/8
1	.32	3/4	.036	2	6	1 3/4
1 1/4	.46	2 5/32	.040	3	6	2 1/2
1 1/2	.52	7/8	.040	4	6	3 1/4

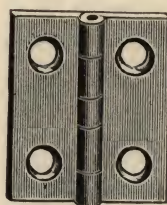
For Six Screws

Lgth. In.	Per Doz. Pairs	Width Open In.	Gage No.	Screw No.	Doz. Pr. In Box	Wt. Box Lb.
1 3/4	\$.68	1	.042	5	6	4 3/4
2	.80	1 1/2	.045	5	6	5 13/16
2 1/2	1.40	1 7/8	.052	6	3	5 1/2
3	2.50	1 5/8	.062	8	1	2 7/8

Middle Wrought Brass Butts

Packed without screws.

For Four Screws



Size Lgth. In.	Width Open In.	Gauge No.	Screw No.	Doz. Pr. In Box	Wt. Box Lbs.	Price per Doz. Pairs
1/2	9/16	.027	0	6	1/2	.....
3/4	3/4	.033	2	6	1 1/16	.....
1	7/8	.036	3	6	1 7/8	.....
1 1/4	1 1/8	.040	4	6	2 3/4	.....
1 1/2	1 1/2	.040	4	6	3 3/4	.....

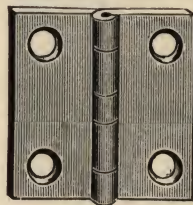
For Six Screws

Size Lgth. In.	Width Open In.	Gauge No.	Screw No.	Doz. Pr. In Box	Wt. Box Lbs.	Price per Doz. Pairs
1 3/4	1 1/16	.042	5	6	5	.....
2	1 3/16	.045	5	6	6 1/2	.....
2 1/2	1 5/8	.052	6	3	6	.....
3	1 3/4	.062	8	1	3	.....

Broad Wrought Brass Butts

Packed without screws

For Four Screws



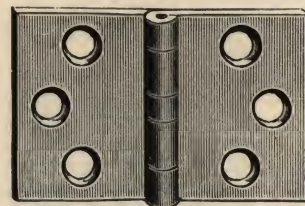
Lgth. In.	Per Doz. Pairs	Width Open In.	Gage No.	Screw No.	Doz. Pr. In Box	Wt. Box Lb.
1/2	5/8	.027	0	6	9/16
3/4	7/8	.033	3	6	1 3/16
1	1	.036	3	6	2 1/16
1 1/4	1 1/32	.040	4	6	3
1 1/2	1 1/4	.040	4	6	4 3/8

For Six Screws

Lgth. In.	Per Doz. Pairs	Width Open In.	Gage No.	Screw No.	Doz. Pr. In Box	Wt. Box Lb.
1 3/4	1 5/16	.042	5	6	5 3/4
2	1 3/8	.045	5	6	7 1/2
2 1/2	1 3/4	.052	6	3	6 3/8
3	2	.062	8	1	3 3/8

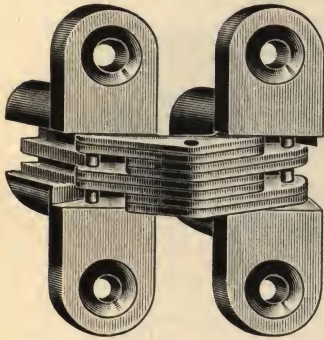
Desk Wrought Brass Butts

For Six Screws



Packed without screws.

Size Lgth. In.	Width Open In.	Gauge No.	Screw No.	Doz. Pr. In Box	Wt. Box Lbs.	Price per Doz. Pairs
3/4	1 5/16	.041	3	6	2 3/16	.....
1	1 9/16	.044	4	6	3 7/8	.....
1 1/4	1 3/4	.045	4	6	5 5/8	.....
1 1/2	2	.050	5	6	8 1/4	.....
1 3/4	2 9/16	.058	6	3	6 7/8	.....
2	2 5/16	.062	7	3	9 3/4	.....

Soss Invisible Hinges**No. 203**

Used for building construction, furniture, piano and cabinet work.

Nos. 101 and 203 are for ordinary light cabinet work.

No. 204 is for light doors, counter flaps, lockers, radiators, seats, hall seats, small closets, secret panels, and various kinds of furniture.

No. 208 is for purposes similar to No. 204 but where greater strength is desired.

Nos. 212 and 216 are for normal clearance, with roller bearing.

Nos. 218 and 220 are for standard house doors where greater clearance is required.

Standard finish is dull brass.

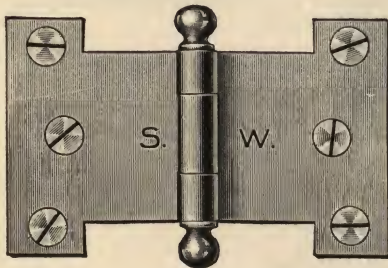
Can be furnished in special finishes at an additional cost.

Packed in box with wood screws.

No.	Dull Brass per Pair	Length Plates In.	Width Plates In.	Depth Mortise In.	Thickness Wood Required In.	Clearance between Plates In.	Pair in Box	Wt. Lb. per Box
101	\$.47	11 ¹ / ₁₆	3 ³ / ₈	1 ¹ / ₂	9 ¹ / ₁₆	5 ¹ / ₁₆	12	2
203	.42	13 ¹ / ₄	1 ¹ / ₂	23 ³ / ₃₂	3 ³ / ₄	23 ³ / ₆₄	12	3 ¹ / ₂
204	.94	23 ³ / ₈	1 ¹ / ₂	23 ³ / ₃₂	3 ³ / ₄	23 ³ / ₆₄	6	25 ³ / ₈
208	1.90	23 ³ / ₄	5 ⁵ / ₈	23 ³ / ₃₂	7 ⁷ / ₈	29 ³ / ₆₄	2	19 ¹ / ₁₆
212	3.20	33 ³ / ₄	3 ³ / ₄	15 ⁵ / ₆₄	11 ¹ / ₈	17 ³ / ₃₂	1	15 ³ / ₈
216	4.32	43 ³ / ₈	1	17 ¹ / ₁₆	13 ³ / ₈	23 ³ / ₃₂	1	33 ³ / ₁₆
218	4.44	45 ³ / ₈	11 ¹ / ₈	119 ³ / ₃₂	15 ³ / ₈	7 ⁷ / ₈	1	4
220	5.12	51 ¹ / ₂	13 ³ / ₈	115 ¹ / ₁₆	17 ³ / ₈	11 ¹ / ₁₆	1	73 ³ / ₄

No. 260 Stanley Wrought Steel Parliament Butts

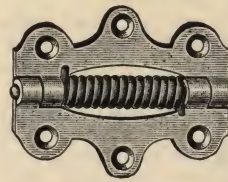
Loose Pins and Ball Tips



Planished and plated.

Packed, 4-inch and smaller, one dozen pairs in a box; larger sizes are packed six pairs in a box, except the 10-inch, which is packed three pairs in a box all with screws.

Width Open Inches	No. of Screw Holes	Size Screws	Weight Pounds per Dozen Pairs	PRICE, PER DOZEN PAIRS	A-D2 F	H Dull Black
3	6	7 ¹ / ₈ -inch x 8	5	\$7.25	\$8.25	
3 ¹ / ₂	6	7 ¹ / ₈ -inch x 9	61 ¹ / ₂	8.75	9.75	
4	6	1 -inch x 9	71 ¹ / ₂	9.75	10.75	
4 ¹ / ₂	6	1 -inch x 9	83 ³ / ₄	10.50	11.50	
5	6	1 -inch x 9	10	12.00	13.15	
6	6	1 ¹ / ₄ -inch x 10	143 ³ / ₄	14.25	15.75	
8	6	1 ¹ / ₄ -inch x 11	30	19.00	20.65	
10	8	1 ¹ / ₄ -inch x 12	46	23.00	25.40	

No. 13 Sargent Single Joint Spring Hinges

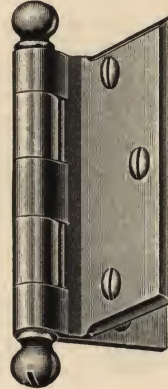
To swing one way. Wrought steel. Width 2³/₈ inches when open. Length 3 inches. Has 6 screw holes for No. 6 screws. Without screws.

No. 13, Brass-Plated

..... per dozen pair

No. 13N, Nickel-Plated

..... per dozen pair

No. 165 Wrought Steel Half Surface Butts

Made from planished cold rolled steel and plated.

Beveled edges and oval head screws add dignity and simplicity to the design.

The slot in the lower ball tip allows it to be unscrewed for the purpose of reversing the butt.

These butts effect economy in the cost of hanging doors. The surface leaf is applied to the door without mortising.

With screws.

Size Length Inches	A-D2 F per Pr.	SD2 SF4 per Pr.	H Dead Black per Pr.	N Nickel per Pr.	No. of Screw Holes	Size of Screws	No. of Pair in Box	Wt. Lbs. per Pair
11 ¹ / ₂	4	3 ⁴ / _x 5	3	1 ¹ / ₂
2	5	3 ⁴ / _x 7	3	3 ¹ / ₁₀
2 ¹ / ₂	6	3 ⁴ / _x 8	3	1 ¹ / ₂
3	6	3 ⁴ / _x 8	1	1
3 ¹ / ₂	6	1 x 9	1	1 ¹ / ₂
4	8	1 x 10	1	2
4 ¹ / ₂	9	1 ¹ / _x 10	1	2 ¹ / ₂

No. 311 Stanley Continuous Hinges

Designed for use on pianos, cabinets, etc.

Made of wrought steel, brass or zinc alloy.

Screw holes are spaced 2 inches apart. Lengths up to 72 inches. Nickel finish.

Steel and brass regularly furnished in bright nickel finish. Other finishes to order.

Packed as ordered, without screws.

Width Open.....in.	11 ¹ / ₁₆	11 ¹ / ₄	11 ¹ / ₂
Per 100 Feet.....lbs.	.....	.....	.....
Gage of Metal.....	.045	.045	.045
Size of Wood Screws.....	1 ¹ / ₂ x4	1 ¹ / ₂ x4	1 ¹ / ₂ x4
Wt. per 100 Ft.....lbs.	22	25	30

Perfection Door Springs

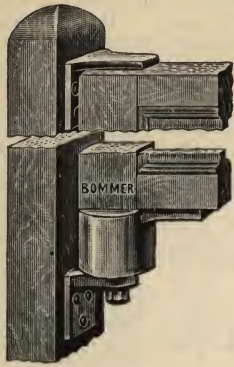
Double Wire Loop Ends, Japanned



The best steel is used in the manufacture of this spring, ensuring permanent resiliency and freedom from breakage. For screen doors or other doors; simple, easily applied. Two screw-hooks are all that are required to attach.

Packed 1 dozen in a box, with japanned screw-hooks, 1 to 5-gross cartons.

No.	Size Wire Inches	O. D. Spring Inches	Length Coil Inches	Length Over All Inches	Weight Pounds per Gross	Price per Gross
1	.039	17 ¹ / ₆₄	15 ¹ / ₈	16 ³ / ₈	15	.....
2	.039	19 ¹ / ₆₄	15 ³ / ₄	16 ³ / ₈	21	.....
3	.049	11 ¹ / ₃₂	15 ⁵ / ₈	16 ³ / ₈	27	.....
4	.056	3 ³ / ₈	15 ⁵ / ₈	16 ³ / ₈	33	.....
5	.060	7 ¹ / ₁₆	15 ⁵ / ₈	16 ¹ / ₂	39	.....
6	15 ¹ / ₂ Ga.	1 ¹ / ₂	15 ⁵ / ₈	16 ¹ / ₂	48	.....
7	14 ¹ / ₂ Ga.	9 ¹ / ₁₆	15 ⁵ / ₈	16 ¹ / ₂	60	.....

Bommer Non-Sagging Spring Pivot Hinges

For right or left hand office gates, $1\frac{1}{8}$ to $2\frac{1}{2}$ inches thick, either double or single-acting gates. Brackets $1\frac{1}{4}$ inch wide.

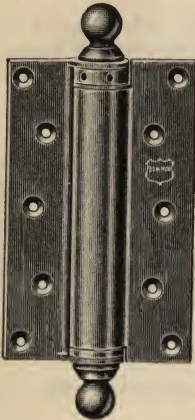
Back edge of gate is slightly rounded. Can be furnished with bottom bracket inverted and cup to be mortised into gate, with arm at bottom, if specially ordered.

Packed 1 set in a box, with screws. Weight per set $3\frac{1}{4}$ pounds.

No. 11, Cast Iron, Dead Black Japanned Finish

.....per set **\$3.90**

No. 611, Polished Dull Brass Finish.....per set **5.80**

Bommer Standard Spring Hinges**Single Action**

Regularly made to close door, but when specially ordered, can be furnished with reverse spring to swing door open.

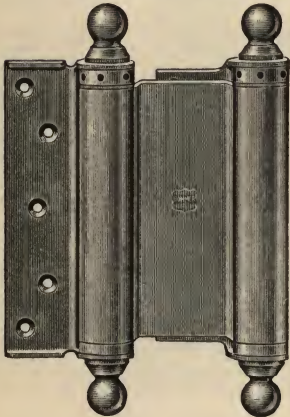
Made of wrought steel, planished. Adjustable spring tension.

The barrel and its leaf are one solid thick plate of metal. The two flanges are flush-faced, without projecting top and bottom edges.

Bronze plated, antique copper, or galvanized are the same price as dull brass. Sanded finishes are the same price as nickel plated.

Packed 1 pair in a box with screws.

Size In.	Japanned Dead Black			Dull Brass			Nickel Plated			Thickness of Door Inches	Wt. Lb. per Pair
	No.	Per Pr.		No.	Per Pr.		No.	Per Pr.			
3	0	\$2.20		600	\$2.90		850	\$4.00		$\frac{3}{4}$ to 1	$1\frac{1}{8}$
4	1	2.70		601	3.60		851	4.70		$\frac{7}{8}$ to $1\frac{1}{4}$	2
5	5	3.10		605	4.20		855	5.70		$1\frac{1}{8}$ to $1\frac{1}{2}$	3
6	9	3.80		609	5.30		859	6.90		$1\frac{1}{4}$ to $1\frac{3}{4}$	$4\frac{1}{8}$

Bommer Ever Ready Spring Hinges**Double Action**

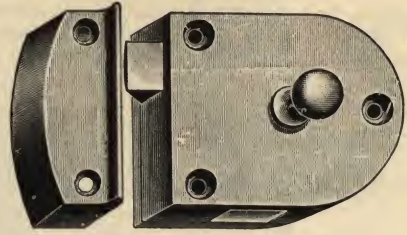
The elimination of the hanging-strip simplifies the fitting of the door.

Made of wrought steel, planished. The barrels and their connecting plate are integral and made of a thick, solid, strong plate of metal of full and even thickness throughout

The springs are of large diameter and unusual length, made of the best oil-tempered steel wire.

Packed 1 pair in a box with screws to match.

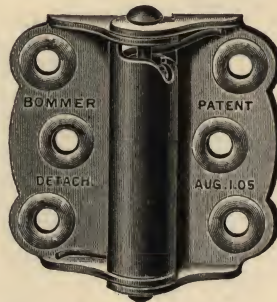
Size In.	Japanned Dead Black			Dull Brass			Nickel Plated			Thickness of Door Inches	Wt. Lb. per Pair
	No.	Per Pr.		No.	Per Pr.		No.	Per Pr.			
3	3029	\$3.70		3629	\$5.00		3879	\$6.60		$\frac{3}{4}$ to 1	$2\frac{1}{2}$
4	3030	4.40		3630	6.00		3880	7.90		$\frac{7}{8}$ to $1\frac{1}{4}$	$3\frac{3}{4}$
5	3033	5.20		3633	7.00		3883	9.50		$1\frac{1}{8}$ to $1\frac{1}{2}$	$5\frac{3}{4}$
6	3036	6.40		3636	8.90		3886	11.50		$1\frac{1}{4}$ to $1\frac{3}{4}$	$8\frac{3}{4}$
7	3039	8.20		3639	11.50		3889	14.80		$1\frac{3}{8}$ to 2	12
8	3042	11.90		3642	16.40		3892	20.40		$1\frac{1}{2}$ to $2\frac{1}{4}$	$17\frac{1}{4}$

No. 1413 Corbin Secret Gate Catches Reversible

Size $2 \times 2\frac{3}{8}$ inches.

Packed six in a box with screws.

No.	Style	Wt., Lbs. per Dozen	Dozen
EA-01413	Cast Iron, Dull Brass	$7\frac{1}{4}$	.....
B1413	Cast Bronze, Natural Color, Pol.	$7\frac{1}{4}$	.....

Bommer Screen-Door Spring Hinges**Detachable**

This hinge is made from wrought steel, and has enclosed oil tempered steel coil spring.

Finished Japanned bright black.

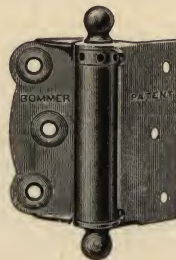
Size, $2\frac{3}{4} \times 2\frac{3}{4}$ inches.

Packed, 12 pairs in a box; 144 pairs in a case.

Weight per dozen pairs, $7\frac{1}{8}$ pounds.

No. 960, without Screws.....per dozen pairs **\$4.30**

No. 960 $\frac{1}{2}$, with Screws.....per dozen pairs **5.10**

Bommer Half Surface Spring Hinges

Made of heavy wrought steel. Size, 3x3 inches. Has adjustable tension.

The coil-spring is entirely enclosed. It is made of the best oil-tempered steel wire.

One leaf is fastened to the casing, the other leaf is fastened to the surface of the door.

Packed 1 pair in a box with screws to match.

Weight per pair, $1\frac{1}{4}$ pounds.

No. 2200, Japanned Dead Black.....per pair **\$1.00**

No. 2203, Dull Brass.....per pair **1.10**

No. 2204, Nickel Plated.....per pair **1.20**

No. 2209, Galvanized, Zinc Plated.....per pair **1.10**

Bommer Heavy Wrought Metal Screen-Door Spring Hinges

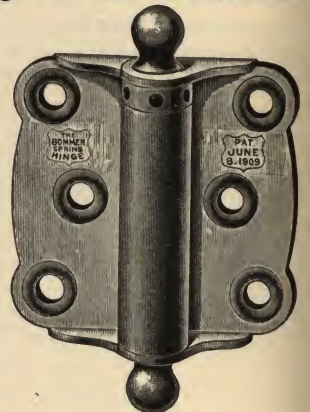
Has adjustable tension. The coil-spring is entirely enclosed and is made of the best oil-tempered steel wire. This hinge is of excellent workmanship and finish, and is made of heavy metal. The tension of the spring can be regulated after the hinge is applied to the door.

Made of planished steel.

No. 2100, Jap'd Dead Black.....per pair **\$1.40**

No. 2103, Dull Brass.....per pair **1.80**

No. 2104, Nickel-Plated.....per pair **2.40**



McKinney Wrought Steel Light Strap Hinges

No. 800—Plain Steel No. 800G—Hot Galvanized
No. 800G-BR—Hot Galvanized with Brass Pin



Length Each Leaf Inches	PER DOZEN PAIRS WITHOUT SCREWS			Width Joint Inches	Size Screws	No. of Screw Holes	Wt. Lb. per Dozen Pairs
	No. 800	No. 800G	No. 800G-BR				
2	1	5/8 x 5	6	1 3/8
3	1 1/8	3/4 x 6	6	2 1/2
4	1 1/8	3/4 x 7	6	4
5	1 1/8	1 x 8	8	6
6	1 1/8	1 x 9	8	9
8	1 7/8	1 x 10	8	15
10	2 1/8	1 1/4 x 10	8	22
12	2 3/4	1 1/4 x 12	8	38

McKinney Wrought Steel Heavy Strap Hinges

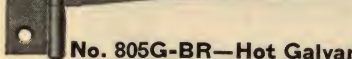
No. 803—Plain Steel No. 803G—Hot Galvanized
No. 803G-BR—Hot Galvanized with Brass Pin



Length Each Leaf Inches	PER DOZEN PAIRS WITHOUT SCREWS			Width Joint Inches	Size Screws	No. of Screw Holes	Wt. Lb. per Dozen Pairs
	No. 803	No. 803G	No. 803G-BR				
4	1 1/8	1 x 9	6	6
5	1 3/4	1 x 10	8	10
6	2 1/2	1 1/4 x 11	8	19
8	2 7/8	1 1/4 x 12	8	33
10	3 1/8	1 1/2 x 14	8	52
12	4	1 1/2 x 16	10	81
14	4	1 1/2 x 16	10	86

McKinney Wrought Steel Light Tee Hinges

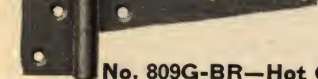
No. 805—Plain Steel
No. 805G—Hot Galvanized



Length Strap Inches	PER DOZEN PAIRS WITHOUT SCREWS			Length Joint Inches	Width Pad Inches	Size Screws	No. of Screw Holes	Wt. Lb. per Dozen Pairs
	No. 805	No. 805G	No. 805G-BR					
2	2	1/2	5/8 x 5	6	1 1/2
3	2 3/8	3/4	3/4 x 6	6	2 3/4
4	2 5/8	7/8	3/4 x 7	6	3 1/2
5	3	1 1/8	1 x 8	7	5
6	3 1/2	1	1 x 8	7	6 1/2
8	4	1 1/8	1 x 9	7	9 1/2
10	4 1/2	1 3/8	1 1/4 x 10	8	14
12	4 3/4	1 3/8	1 1/4 x 11	8	21

McKinney Wrought Steel Extra Heavy Tee Hinges

No. 809—Plain Steel
No. 809G—Hot Galv.



Length Strap Inches	PER DOZEN PAIRS WITHOUT SCREWS			Length Joint Inches	Width Pad Inches	Size Screws	No. of Screw Holes	Wt. Lb. per Dozen Pairs
	No. 809	No. 809G	No. 809G-BR					
4	3 1/2	1 1/4	1 x 9	6	8
5	4	1 1/8	1 x 10	8	13 1/2
6	4 1/2	1 3/4	1 1/4 x 11	8	21
8	5 1/2	2	1 1/2 x 12	9	37
10	7	2 1/8	1 1/2 x 14	9	58
12	7 3/4	2 7/8	1 1/2 x 16	10	78
14	7 3/4	2 7/8	1 1/2 x 16	10	83
16	7 3/4	2 7/8	1 1/2 x 16	11	88

No. 435 R-W Surface Hinges

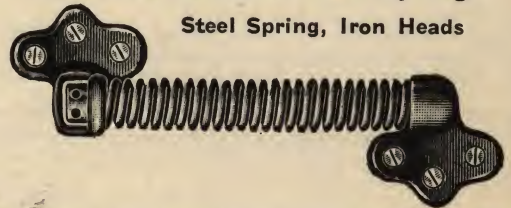


Made of No. 12-gauge steel.
Packed one pair in a box. The 2 1/2 x 4-inch size packed with screws; 3 1/2 x 5-inch size with head stove bolts long enough for a door 2 1/2 inches thick.
Finish, black enamel.

Size.....	inches	2 1/2 x 4	3 1/2 x 5
Weight.....	pounds	1 1/2	4
No. 435.....	per pair	\$.97	1.78

Type 2500 Bommer Door Springs

Steel Spring, Iron Heads



This spring is sold completely assembled; the coil springs are made of high grade steel wire; the tension is adjustable and can be conveniently regulated after the door spring is in place on the door.

Finished Japanned bright black. Packed without screws, 7-inch, 12 in a box; 8 and 10-inch 6 in a box.

No.....	2500	2510	2520
Per Dozen.....	\$3.20	4.30	6.70
Length Over All.....	inches	7	8

No. 542 Richards-Wilcox Round Track Door Hangers and Track



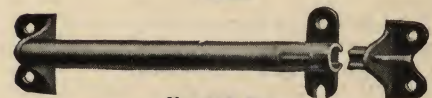
The wheels are of gray iron, lathe turned. Frame is of malleable iron, with ribbed back. Bearings, steel rollers. Finish, black enamel. Limit roller prevents binding or derailment of door. Two sizes: No. 542-A is for doors up to 1 3/4 inches thick. No. 542-B for doors 1 3/4 to 2 inches thick.

No. 542-A is for 7/8-inch track. No. 542-B is for 1 1/8-inch track.

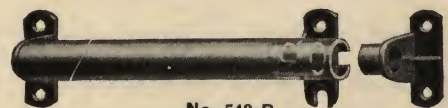
Track can be furnished in 4, 6, 8, and 10-foot lengths.

Dimension Inches	Wheels Inches	Diam. per 100 Feet	Wt., Lbs. per 100 Feet	Price, per 100 Feet
4 x 9 1/2	2 1/4	75	\$37.20	
5 1/2 x 12	2 1/2	110	42.00	

Track



No. 542-A-1



No. 542-B

Track No.	Diam. In.	*Wt., Lbs. per 100 Feet	Price per 100 Ft.	Track No.	Diam. In.	*Wt., Lbs. per 100 Feet	Price per 100 Ft.
542-A-1	7/8	75	\$22.00	542-B	1 1/8	100	\$26.50

*With brackets, 2-foot centers.



No. 836 Richards-Wilcox Wrought Steel Offset Surface Hinges

Made of No. 12 wrought steel. Size 4x2½ inches. Hinge eye is offset to allow 3 inches between doors when folded. Black enamel finish. One pair in a box with screws; weight, 2 pounds.
No. 836.....per pair \$1.47

No. 1036 R-W Heavy Strap Hinges

With Mortise Pintle



Designed especially for large swing doors. Made of wrought steel, in various sizes. Anti-friction washer and ½-inch riveted pintle pin. Black japan finish.

Packed in bulk or one pair in box with ⅝x3¼-inch carriage bolts for sizes up to 24 inches, and ¾x3¼-inch for sizes over 24 inches.

Size Strap In.	Ht. Pintle In.	Ship. Wt. Lbs.	PRICE, PER PAIR	
			With Bolts	Without Bolts
10x2½	6	6½	\$3.60	\$3.10
12x2½	6	7	3.90	3.40
18x2½	6	8½	4.20	3.70
24x2½	6	10	4.60	4.10
30x3	7	15	6.10	5.60
36x3	7	18	6.70	6.30

No. DB-1035 R-W Heavy Offset Hinges With Surface Pintle



Especially designed for garage, warehouse, factory and other heavy doors. Pintle can be set far enough from edge of opening so door will clear the opening when standing at right angles to doorway. The 18 and 24-inch straps, made of ¼-inch wrought steel, 30 and 36-inch straps made of ⅝-inch wrought steel, 2½ inches high.

Furnished with adjustable clip which can be bolted to the door near the edge regardless of the distance the pintle is set from the jamb.

Pintles are made in two widths: 1¾-inch and 2½-inch. Unless otherwise specified, the 2½-inch will be furnished. Pintle is furnished with loose cadmium-plated pintle pin, ½ inch in diameter. Bolt holes are ⅝ inch in diameter located at 5½-inch centers. Black japan finish.

Furnished with hardened cadmium-plated disk bearings. Furnished with cadmium-plated ball bearing units at extra price.

Packed in bulk or one pair in a box with ¾x3¼-inch carriage bolts.

Size Strap... in.	18x2½	24x2½	30x2½	36x2½	42x2½	48x2½
No. DB-1035, in Box with Bolts...per pr.	\$4.70	\$4.90	\$5.60	\$6.30	\$7.10	\$7.80
No. DB-1035, in Bulk Less Bolts...per pr.	4.20	4.50	5.20	5.80	6.60	7.30
Ship. Wt....lb.	16	18	20	22	24	26

No. 821 McKinney Wrought Steel Screw Hook and Strap Hinges



Lgth. Strap In.	Screw Hooks In.	Width Strap In.	Bolt Holes in Ea. Hinge	Aver. Wt. Lbs. per 100 Pcs.	Price per Pr.	Lgth. Strap In.	Screw Hooks In.	Width Strap In.	Bolt Holes in Ea. Hinge	Aver. Wt. Lbs. per 100 Pcs.	Price per Pr.
6	4¾	1¼	2	197	....	18	6¾	1¾	3	793	....
8	4¾	1¼	2	222	....	20	6¾	1¾	4	855	....
10	6¼	1¼	3	320	....	22	6¾	1¾	4	1025	....
12	6¼	1½	3	388	....	24	8½	2	4	1132	....
14	6¾	1½	3	602	....	30	8½	2	4	1302	....
16	6¾	1½	3	659	....	36	8½	2	4	1533	....

No. 03 R-W Heavy Hinges No. 03-1



Pintle head, heavy steel, with machine bolt to pass through wall. Hinge straps made of steel, ⅝ inch thick by 2½ inches wide. Made for flush and lap doors. Pintle pins, ¾ inch diameter.

When ordering state thickness of wall and thickness of door. Unless otherwise specified, pintles for lap doors will be sent.

Size Inches	Wt., Lbs. per Pair	PRICE, PER PAIR		
		THICKNESS OF WALL, INCHES		
		12	18	24
*15	19	\$6.20	\$6.50	\$7.00
18	21	6.20	6.50	7.00
21	22½	6.30	6.80	7.20
24	24	6.50	7.00	7.40
30	27	7.20	7.60	8.00
36	30	7.60	8.20	8.50
42	33	8.50	8.90	9.20
48	36	9.00	9.40	9.80

No. 03-2



Pintles, malleable iron, 4½ inches high, 3½ inches wide, measuring from center of eye. Hinge straps, made of steel, ⅝ inch thick by 2½ inches wide. Pintle pins, ¾ inch diameter.

No. 03-3



Pintles, malleable iron, 7 inches high, 2¼ inches wide, measuring from center of eye. Hinge straps, made of steel, ⅝ inch thick by 2½ inches wide. Pintle pins, ½ inch diameter.

Nos. 03-2 and 03-3

Size Inches	Wt., Lbs. per Pair	PRICE, PER PAIR		
		THICKNESS OF WALL, INCHES		
		12	18	24
*15	16-12	....	....	\$4.60
18	18-14	....	....	4.70
21	19-15½	....	....	4.80
24	21-17	....	....	4.90
30	24-20	....	....	5.60
36	27-23	....	....	6.20
42	30-26	....	....	6.80
48	33-29	....	....	7.40

*Or under.

R-W Heavy Door Hinges

When ordering specify number and size. Bolt holes in pintles punched for $\frac{3}{4}$ -inch bolts, in straps for $\frac{1}{2}$ -inch. No bolts included.

Reverse Pads, Offset Strap

This hinge was produced for use on heavy single doors with wood or steel jambs, pintle being attached to the face of the jamb.

Cadmium plated pintle pins, hardened cadmium plated disc or ball bearings. Black japan finish.

 $\frac{3}{8} \times 2\frac{1}{2}$ -Inch Strap, $\frac{3}{4}$ -Inch Diameter Pintle Pin

Pintle or pad, DB, 6 inches; BB, 7 inches high by 6 inches wide to center of pin.

Length Strap..... inches Up to	36	37-48	49-60	61-72
No. DB434B, Disc Bearing				
..... per pair	\$12.90	\$14.10	\$15.15	\$16.20
No. BB434B, Ball Bearing				
..... per pair	17.70	18.90	19.95	21.00
Approx. Wt. per Pr... pounds	34	42	50	58

 $\frac{3}{8} \times 3$ -Inch Strap, $\frac{3}{4}$ -Inch Diameter Pintle Pin

Pintle or pad, DB, 7 inches; BB, 8 inches high by 6 inches wide to center of pin.

Length Strap..... inches Up to	36	37-48	49-60	61-72
No. DB 434B, Disc Bearing				
..... per pair	\$14.40	\$15.90	\$17.25	\$18.75
No. BB434B, Ball Bearing				
..... per pair	19.20	20.70	22.05	23.55
Approx. Wt. per Pr... pounds	39	47	55	63

Double Pintle, Single Straight Strap

A hinge created for use on very heavy single swinging doors, pintle being attached to flush wood or steel jambs. Cadmium plated pintle pins, hardened cadmium plated disc or ball bearings. Black japan finish.

 $\frac{3}{8} \times 2\frac{1}{2}$ -Inch Strap, $\frac{3}{4}$ -Inch Diameter Pintle Pin

Pintle or pad, DB, $13\frac{3}{4}$ inches; BB, 15 inches high by 4 inches wide.

Length Strap..... inches Up to	36	37-48	49-60	61-72
No. DB434C, Disc Bearing				
..... per pair	\$12.90	\$14.10	\$15.15	\$16.20
No. BB434C, Ball Bearing				
..... per pair	17.70	18.90	19.95	21.00
Approx. Wt. per Pr... pounds	27	33	39	45

 $\frac{3}{8} \times 3$ -Inch Strap, $\frac{3}{4}$ -Inch Diameter Pintle Pin

Pintle or pad, DB, 14 inches; BB, $15\frac{1}{2}$ inches high by 4 inches wide.

Length Strap..... inches Up to	36	37-48	49-60	61-72
No. DB434C, Disc Bearing				
..... per pair	\$14.40	\$15.90	\$17.25	\$18.75
No. BB434C, Ball Bearing				
..... per pair	19.20	20.70	22.05	23.55
Approx. Wt. per Pr... pounds	31	39	47	55

These hinges are always built to special order and are not subject to return. Length must be specified. Shipped 10 days after receipt of order.

Straight Strap

Designed for use with very heavy single swinging doors. Pintle to be attached to flush brick or masonry jamb or wall.

Cadmium plated pintle pin, hardened cadmium plated disc or ball bearings. Black japan finish.

 $\frac{3}{8} \times 2\frac{1}{2}$ -Inch Strap, $\frac{3}{4}$ -Inch Diameter Pintle Pin

Pintle or pad, DB, 6 inches; BB, 7 inches high by $11\frac{1}{2}$ inches long to center of pin.

Length Strap..... inches Up to	36	37-48	49-60	61-72
No. DB434D, Disc Bearing				
..... per pair	\$11.55	\$12.30	\$13.65	\$14.70
No. BB434D, Ball Bearing				
..... per pair	16.35	17.10	18.45	19.50
Approx. Wt. per Pr... pounds	32	39	46	53

 $\frac{3}{8} \times 3$ -Inch Strap, $\frac{3}{4}$ -Inch Diameter Pintle Pin

Pintle or pad, DB, 7 inches; BB, 8 inches high by $11\frac{1}{2}$ inches long to center of pin.

Length Strap..... inches Up to	36	37-48	49-60	61-72
No. DB434D, Disc Bearing				
..... per pair	\$12.90	\$14.40	\$15.90	\$17.25
No. BB434D, Ball Bearing				
..... per pair	17.70	19.20	20.70	22.05
Approx. Wt. per Pr... pounds	39	47	55	63

Double Strap

For use on large folding wood doors. Bolt holes are punched in one strap only. Other strap to be drilled on job to match Nos. 434B, 434C or 434D hinges if desired.

Cadmium plated pintle pin, hardened cadmium plated disc or ball bearings. Black japan finish.

For Flush Doors Opening Inside **$\frac{3}{8} \times 2\frac{1}{2}$ -Inch Strap, $\frac{3}{4}$ -Inch Diameter Pintle Pin**

Length Strap..... inches Up to	36	37-48	49-60	61-72
No. DB434J, Disc Bearing				
..... per pair	\$23.10	\$24.45	\$25.95	\$27.30
No. BB434J, Ball Bearing				
..... per pair	27.90	29.25	30.75	32.10
Approx. Wt. per Pr... pounds	44	56	68	80

 $\frac{3}{8} \times 3$ -Inch Strap, $\frac{3}{4}$ -Inch Diameter Pintle Pin

Length Strap..... inches Up to	36	37-48	49-60	61-72
No. DB434J, Disc Bearing				
..... per pair	\$24.45	\$25.95	\$27.30	\$28.80
No. BB434J, Ball Bearing				
..... per pair	29.25	30.75	32.10	33.60
Approx. Wt. per Pr... pounds	53	67	82	96

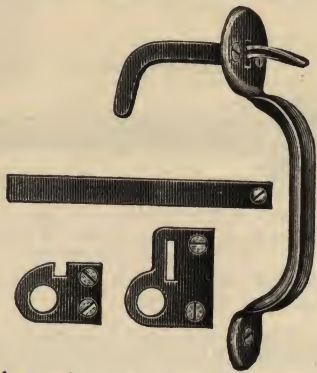
Offset, for Doors Opening Outside **$\frac{3}{8} \times 2\frac{1}{2}$ -Inch Strap, $\frac{3}{4}$ -Inch Diameter Pintle Pin**

Length Strap..... inches Up to	36	37-48	49-60	61-72
No. DB434K, Disc Bearing				
..... per pair	\$24.45	\$25.95	\$27.30	\$28.80
No. BB434K, Ball Bearing				
..... per pair	29.25	30.75	32.10	33.60
Approx. Wt. per Pr... pounds	44½	56½	68½	80½

 $\frac{3}{8} \times 3$ -Inch Strap, $\frac{3}{4}$ -Inch Diameter Pintle Pin

Length Strap..... inches Up to	36	37-48	49-60	61-72
No. DB434K, Disc Bearing				
..... per pair	\$25.95	\$27.30	\$28.80	\$30.30
No. BB434K, Ball Bearing				
..... per pair	30.75	32.10	33.60	35.10
Approx. Wt. per Pr... pounds	53½	67½	82½	96½

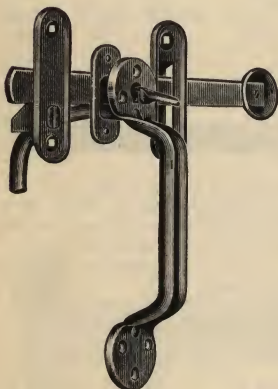
No. 1260 Stanley Wrought Steel Latches With Padlock Attachment



This latch is used on garages, basement partitions or medium weight doors. Packed one in a box with screws.

Size No.	PER DOZEN				Length Handle In.	SIZE SCREWS INCHES		For Doors Thick. In.
	J	A	D2	R		Handle	Catch	
2	Light	Antique	Galvan-	6 3/4	7/8 x 9	7/8 x 10	5/8-1 3/4
3	Bronze	Copper	ized	7 1/2	1 x 9	1 x 12	3/4-1 7/8
4	8 7/8	1 1/4 x 12	1 1/4 x 12	1 -2 5/8

No. 1252 Wrought Steel Extra Heavy Latches



This latch is adapted for use on doors from 1 1/2 to 2 1/4 inches in thickness.

Designed for garages and industrial buildings.

Has combination holes permitting the use of either bolts or screws.

Packed one in a box with 1 1/2 x 12-inch screws for handle, catch and guide; 1 3/4 x 12-inch screws for bar and 1 x 11-inch for small plate which fits over thumb latch on outside of door.

Length of handle, 10 3/4 inches, length of bar, 6 1/4 inches.

Packed 3 dozen in case, weight, 130 pounds, 1 in a box with screws.

Weight per dozen, 37 pounds.

No.	Description	Per Doz.
1252J	Japaned.....	.....
1252J1	Dead Black, Japaned.....	.....
1252Z	Sherardized.....	.....
1252ZJ1	Sherardized Dead Black, Japaned.....	.....

No. 73 Richards-Wilcox Half Bar Staples

Steel japan finish.



No.	Bar	SIZE, INCHES		Each
		Steel	Steel	
73-1	1 x 2	1 1/4 x 1 1/8		\$.15
73-2	1 1/4 x 2 3/4	1 3/8 x 1 1/8		.19
73-3	1 3/4 x 3 1/4	1 1/2 x 1 1/8		.21
73-4	2 x 4	1 1/4 x 1 1/4		.26
73-5	2 x 4	1 3/4 x 1 1/4		.31
73-6	2 x 4	1 1/2 x 1 1/8		.37

No. 72 Richards-Wilcox Whole Bar Staples

Made of steel for 6 sizes of bars. Japan finish.



No.	Bar	SIZE, INCHES		Each
		Steel	Steel	
72-1	1 x 2	1 1/4 x 1 1/8		\$.17
72-2	1 1/4 x 2 3/4	1 3/8 x 1 1/8		.20
72-3	1 3/4 x 3 1/4	1 1/2 x 1 1/8		.24
72-4	2 x 4	1 1/4 x 1 1/4		.30
72-5	2 x 4	1 3/4 x 1 1/4		.32
72-6	2 x 4	1 1/2 x 1 1/8		.40

Stanley Wrought Steel Chain Bolts

Can be used on the inside or the outside of doors by reversing the bolt.

Equipped with a strong music wire spring which throws the bolt automatically when the chain is released.

All bolts are furnished with one angle strike and one surface strike.

Sizes 3 and 6-inch are packed 6 in a box; size 10-inch is packed 1 in a box; all with wood screws.



Sizes 3 and 6-inch



Size 10-inch

No. 355F, Planished and Plated Dull Brass Finish

Lgth. Bolt In.	Per Dozen	Size Plate In.	Diam. Bolt In.	Throw of Bolt In.	Screw of Holes in Plate	Size in Wood Screws	Wt. Lbs. 100 Doz.	Doz. in Case	Case Wt. Lbs.
3	2 1/2 x 1 3/8	1/2	1/2	4	3/4 x 6	428	5	64
6	5 x 2	23/32	1 1/16	4	1 x 8	1280	5	64

No. 1055J, Japaned

6	.....	5 x 2	23/32	1 1/16	4	1 x 8	1280	5	64
10	.....	9 x 3 3/8	27/32	7/8	6	1 1/4 x 12	3468	5	64

Stanley Wrought Steel Foot Bolts Spring Action

Operated by a pressure of the foot on the cap and released by a pressure on the trip. When released the bolt is retracted by a heavy cadmium-plated music wire spring.

All sizes are furnished with a strike plate for wood floors. Strike No. 1138 for concrete floors is furnished with 10-inch size.

Supplied with wood screws.



Sizes 3 and 6-inch



Strike Plate



No. 1138 Strike



Size 10-inch

No. 356F, Planished and Plated—Dull Brass Finish

Lgth. Bolt In.	Per Dozen	Size Plate In.	Diam. Bolt In.	Throw of Bolt In.	Screw of Holes in Plate	Size in Wood Screws	No. in Box	Doz. Case	Case Wt. Lb.
3	2 1/2 x 1 3/8	1/2	1/2	4	3/4 x 6	6	5	254
6	5 x 2	23/32	1 1/16	4	1 x 8	6	5	956

No. 1056J, Japaned

6	.....	5 x 2	23/32	1 1/16	4	1 x 8	6	5	956
10	.....	9 x 3 3/8	27/32	7/8	6	1 1/4 x 12	1	5	3298

MATERIAL NOT LISTED

We can furnish many items not listed in this catalog.

Please send us all your inquiries.

No. 514-3 R-W Heavy Top Spring Bolts

An extra heavy bolt designed for warehouse or other heavy swinging door, or sliding-folding door.

Housing is 9 inches long, made of malleable iron. Bolt proper is $1\frac{1}{4}$ inches wide by 1 inch thick and $10\frac{1}{2}$ inches overall.

Chain, 60 inches long, has $2\frac{3}{4}$ -inch projection.

Black japan finish.

Packed in bulk.

Weight with keeper, 9 pounds each.

No. 514-3.....each \$4.50

No. 524 R-W Cane Bottom Bolts

An extra heavy, all-steel bottom bolt for garage or warehouse doors.

Bolt drops by gravity when handle is lifted out of socket. Bottom keeper has an oval hole which provides for shrinking or swelling of door. Suitable for use with either wood or concrete floors.

Keeper is installed with the flange at the top in wood floors. In concrete floors, the keeper is installed with the flange at the bottom to serve as an anchor.

Black japan finish.

Packed two in a metal-edged box with screws, keeper plates, brackets and guides.

No.....	524-0	524-1	524-2	524-3
Each.....	\$.85	1.00	1.42	1.84
Thickness.....inches	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$
Length.....inches	12	18	24	24
Weight.....pounds	$1\frac{3}{4}$	3	$4\frac{1}{2}$	$6\frac{1}{2}$

R-W Bow Handles**No. 191—With Straight Pads**

Designed for heavy doors. Securely held to door by one bolt, $\frac{1}{2}$ inch in diameter, in each pad. Made of malleable iron, black enamel finish.

Overall length of handle is 15 inches. Handle projects $2\frac{3}{4}$ inches from the face of the door. The opening for hand is 9 inches long by $1\frac{7}{8}$ inches deep. Grip is $\frac{7}{8}$ inch diameter.

Packed in bulk. Bolts not furnished regularly, but will be packed when specified at a slight additional charge. State thickness of door.

Weight, 270 pounds per 100.

No. 191.....each \$2.45

No. 192—With Offset Pads

This type, when applied to doors, affords more bearing on the door, as there are two bolts used in each pad. These $\frac{1}{2}$ -inch diameter bolts extend through the door. Made of malleable iron, black enamel finish.

Overall length of handle is $13\frac{1}{2}$ inches. Handle projects $2\frac{3}{4}$ inches from the face of the door. The opening for hand is 9 inches long by $1\frac{7}{8}$ inches deep. Grip is $\frac{7}{8}$ inch diameter.

Packed in bulk. Bolts not furnished regularly, but will be packed when specified at a slight additional charge. State thickness of door.

Weight, 306 pounds per 100.

No. 192.....each \$2.45

No. 225 R-W Lion Steel Latches

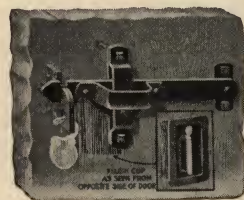
For swinging doors only. Reversible for right or left-hand doors.

Operated from either side of door.

Black enamel finish.

Packed one in a metal box.

No.....	225-1	225-2	225-3	225-4
Each.....	\$1.22	1.62	1.98	2.60
Thick. Doors.....in.	$1\frac{3}{4}$ - $2\frac{5}{8}$	$1\frac{3}{4}$ - $2\frac{5}{8}$	$1\frac{3}{4}$ - $2\frac{5}{8}$	Up to 3
For Doors.....	Light	Light	Medium	Ex. Heavy
Latch Bar.....in.	$10 \times 1\frac{1}{4}$	$12 \times 1\frac{1}{4} \times 1\frac{1}{4}$	$14 \times 1\frac{1}{2} \times \frac{5}{16}$	$14 \times 1\frac{1}{2} \times \frac{5}{16}$
Wt.....lb.	3	$3\frac{1}{2}$	6	7

No. 152A R-W Sliding Door Latches

Especially designed for heavy mill and warehouse doors. Reversible for right or left hand doors. Latch bar, 14 inches long, $1\frac{1}{2}$ inches wide by $\frac{5}{16}$ inch thick.

Adjustable for doors $1\frac{3}{4}$ to $2\frac{3}{4}$ inches thick.

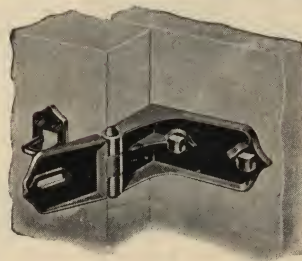
No. 1 flush cup is $3\frac{7}{8}$ inches high by $2\frac{1}{8}$ inches wide inside. No. 2 flush cup is 4 inches high by 4 inches wide.

Black japan finish.

Packed 1 in a metal-edged box.

Weight, 555 pounds per 100

No.....	152A-1	152A-2
Each.....	\$1.84	2.15

No. 182 R-W Heavy Hasps

Designed for use as a door bumper, a binder and a hasp. For heavy doors and rough usage.

Made to fit doors $2\frac{5}{8}$ inches thick. Made of malleable iron. Length on the wall, $7\frac{1}{8}$ inches. Length of hinged leaf which overlaps the door, 5 inches. Height, $3\frac{1}{16}$ inches.

Furnished with screws for attaching padlock eye to door. Wall bolts not included.

Black japan finish.

Packed in bulk.

Weight, 4 pounds each.

No. 182.....each \$2.45

No. 149 R-W Wharf and Warehouse Door Hangers

Ball Bearing
For Extra Heavy Doors Weighing up to 2000 Pounds Each
For No. 145 Track



Distance, top of door to bottom of track, minimum, $1\frac{3}{4}$ inches; maximum, $3\frac{1}{4}$ inches. Distance from bottom of track to center of hole in bracket, 6 inches. The hanger wheels are grey iron, lathe turned, 4 inches in diameter. Frames made of malleable iron with hardened steel cones and ball cups. This hanger has both lateral and vertical adjustments. Apron is 12 inches long, 5 inches wide, $\frac{3}{8}$ inch thick, punched for $\frac{3}{8}$ -inch bolts.

No. 1 for doors $1\frac{3}{4}$ to $2\frac{1}{4}$ inches. No. 2 for doors $2\frac{1}{2}$ to $3\frac{1}{4}$ inches. No. 3 for doors $3\frac{1}{2}$ to $4\frac{1}{4}$ inches thick.

Black enamel finish.

No. 145 angle iron tread trolley track for this hanger has No. 11 gage housing and weighs only 8 pounds per foot. Extra track brackets weigh $6\frac{1}{2}$ pounds each. Hangers weigh 53 pounds per pair.

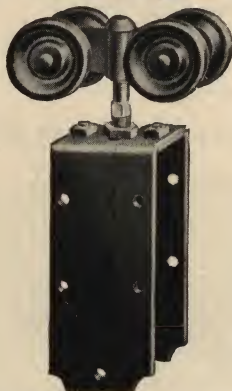
Packed in bulk.

No. 149, 1, 2 or 3 Hangers, less Brackets.....per pair \$26.50
No. 145, Track.....per foot 2.10

No. 150 $\frac{1}{2}$ B R-W Wharf and Warehouse Door Hangers

Ball Bearing

For Doors Weighing up to 800 Pounds Each
For No. 33 Track



Distance, top of door to bottom of track, minimum, $1\frac{1}{2}$ inches; maximum, $2\frac{5}{8}$ inches. Distance from bottom of track to center of hole in bracket, 5 inches. Hanger wheels are drop forged steel, 3 inches diameter, hardened drop forged steel frames, ball bearing. Lateral and vertical adjustments. Apron, $9\frac{1}{2}$ inches long, 4 inches wide, $\frac{3}{16}$ inch thick, punched for $\frac{3}{8}$ inch bolts.

No. 1 for doors $1\frac{3}{4}$ to 2 inches thick. No. 2 for doors $2\frac{1}{4}$ to $3\frac{1}{2}$ inches thick.

Black enamel finish.

No. 33 track for this hanger weighs 4 pounds per foot. Extra brackets weigh $2\frac{1}{2}$ pounds each. Hangers weigh 20 $\frac{1}{2}$ pounds per pair.

Packed 1 pair of hangers with stove bolts in wood box.
No. 150 $\frac{1}{2}$ B, 1 or 2 Hangers, less Brackets....per pair \$15.00
No. 33, Track.....per foot .91

No. 29 $\frac{1}{2}$ B R-W Wharf and Warehouse Door Hangers

Ball Bearing

For Doors Weighing up to 600 Pounds Each
For No. 232 Track



Distance, top of door to bottom of track, minimum, $1\frac{1}{8}$ inches; maximum, 2 inches. Bottom of track to center of hole in bracket, $4\frac{1}{16}$ inches.

Hanger has 3-inch drop forged steel wheels, and hardened drop forged frames, ball bearing.

Hanger has lateral and vertical adjustments.

Apron is $7\frac{1}{2} \times 4 \times \frac{3}{4}$ inches.

No. 1 for doors $1\frac{3}{4}$ to 2 inches. No. 2 for doors $2\frac{1}{4}$ to $2\frac{3}{4}$ inches thick.

Black enamel finish.

Packed 1 pair of hangers with carriage and stove bolts in metal-edge box.

Weight of hangers, 12 pounds per pair; No. 232 track, $2\frac{3}{4}$ pounds; brackets, 2 pounds each.

No. 29 $\frac{1}{2}$ B, 1 or 2 Hangers, less Brackets.....each \$10.50
No. 232, Track.....per foot .74

No. 20 $\frac{1}{2}$ B R-W Wharf and Warehouse Door Hangers

Ball Bearing

For Doors Weighing up to 300 Pounds Each
For No. 31 Track



Distance, top of door to bottom of track, minimum, $1\frac{3}{16}$ inches; maximum, $2\frac{3}{16}$ inches. Bottom of track to center of hole in bracket, $3\frac{1}{2}$ inches.

Hanger has drop forged wheels, $2\frac{1}{8}$ inches diameter, and hardened drop forged steel frames, ball bearing.

Hanger has lateral and vertical adjustment.

Apron is $6 \times 3\frac{1}{2} \times \frac{1}{8}$ inches.

For doors $1\frac{3}{4}$ to $2\frac{1}{4}$ inches thick.

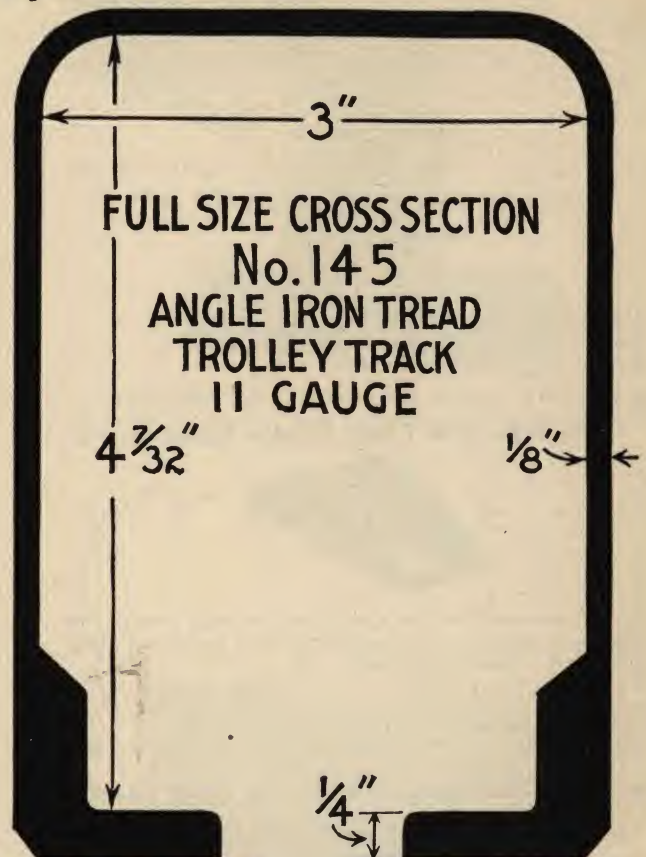
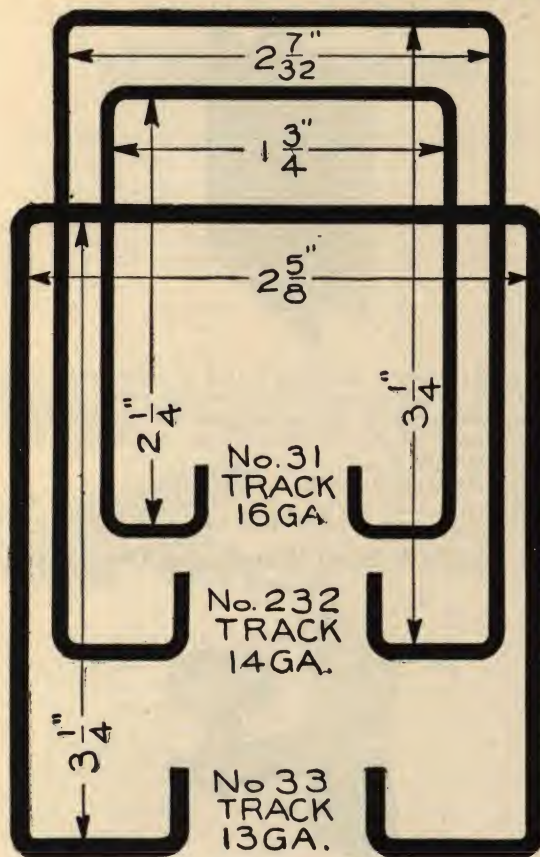
Black enamel finish.

Packed 1 pair of hangers with 3 brackets, carriage and stove bolts in metal-edge box.

Weight of hangers, 10 $\frac{1}{2}$ pounds per pair; No. 31 track, $1\frac{1}{8}$ pounds; brackets, 1 pound each.

No. 20 $\frac{1}{2}$ B, Hangers with 3 Brackets.....per pair \$5.90
No. 31, Track.....per foot .33

R-W Lock Joint Trolley Tracks and Brackets

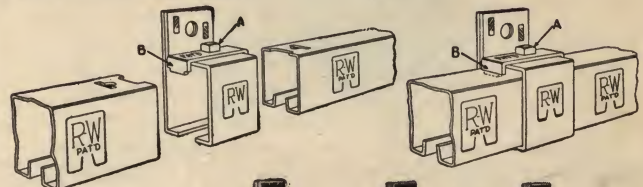


Full Size Cross-Section of Lock Joint Trolley Tracks

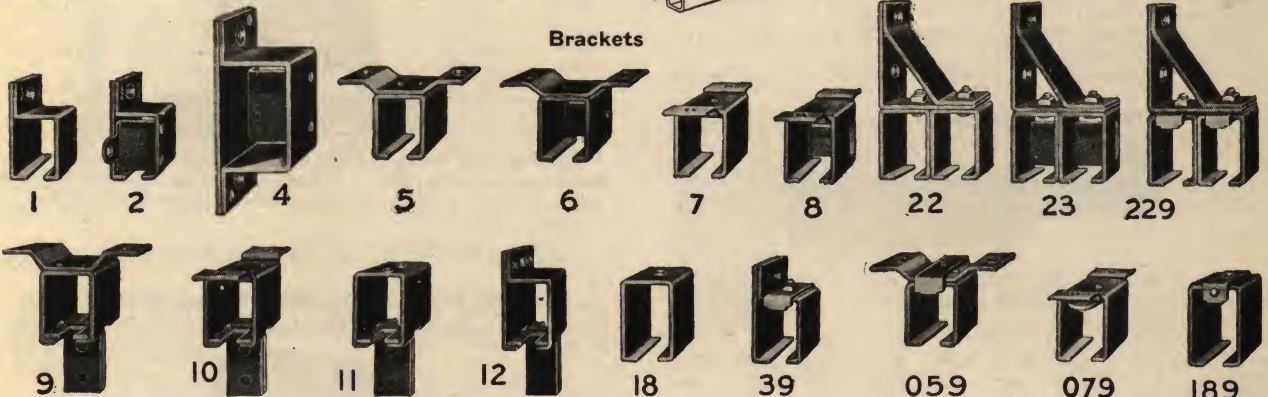
Trolley Tracks

These tracks are perforated to receive lock joint brackets which bind and lock tracks securely together.

	31	232	33	145
Track No.....	31	232	33	145
Black Japan..... per ft.	\$.33	.74	.91	2.10
For Hanger No.....	20 1/2 B	29 1/2 B	150 1/2 B	149
Length..... feet	4-12	4-12	4-12	4-12
Weight per Foot..... pounds	1 3/8	2 3/4	4	8



Brackets



No.	Description	EACH For Track No.			
		31	232	33	145
1	Center Side.....	\$.30	\$.69	\$.84	\$1.96
2	End Side.....	.30	.69	.84	1.96
4	End Side.....				2.25
5	Center Overhead.....	.37	.80	1.06	2.25
6	End Overhead.....	.37	.80	1.06	2.25
7	Center Overhead.....	.37	.80	1.06	2.25
8	End Overhead.....	.37	.80	1.06	2.25
9	Center Stop Overhead.....	1.18	1.90	2.38	4.50
10	Center Stop Overhead.....	1.18	1.90	2.38	4.50
11	Center Stop Overhead.....	1.18	1.90	2.38	4.50

No.	Description	EACH For Track No.			
		31	232	33	145
12	Center Stop Side.....	\$1.18	\$1.90	\$2.38	\$5.60
18	Center Stop Overhead.....	.37	.80	1.06	2.25
22	Parallel Center.....	.91	1.82	2.10	7.00
23	Parallel End.....	.91	1.82	2.10	7.00
39	Lock Joint Side.....	.37	.76	.95	2.55
059	Lock Joint Overhead.....	.51	1.10	1.40	2.35
079	Lock Joint Overhead.....	.51	1.10	1.40	2.35
189	Lock Joint Overhead.....	.45	1.06	1.20	2.55
229	Lock Joint Parallel.....	1.54	2.75	3.30	7.70

Other types of brackets can be furnished to meet special conditions. Dimensions of the above brackets furnished on request.

No. 1100 Corbin Door Pulls



Made of cast iron, japanned. Size 2 $\frac{3}{8}$ x3 $\frac{5}{8}$ inches.
Packed one dozen in a box, without screws.
Weight, 4 $\frac{3}{4}$ pounds per dozen.

No. 1100.....per dozen

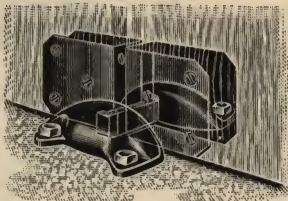
No. 171 R-W Floor Center Stops



This floor stop is for use with pairs of sliding doors. Can be fastened to floor or can be embedded in concrete. Made of gray iron. Black japan finish.

No.....	171-2	171-2 $\frac{1}{4}$	171-3
Each.....	\$1.04	1.34	1.54
Thickness of Doors.....inches	2	2 $\frac{1}{4}$	3
Weight per 100.....pounds	350	370	433

No. 671 R-W Heavy Warehouse Door Guides



Designed to stand severe service and for use with extra heavy doors. Adjustable for doors 1 $\frac{3}{4}$ to 3 $\frac{1}{2}$ inches thick. Black enamel finish.

Packed in bulk.
Weight, 10 $\frac{1}{2}$ pounds each.

No. 671.....each \$4.90

No. 82 R-W Steel Binders



Made of steel $\frac{1}{4}$ inch thick by 2 inches wide for seven thicknesses of doors. Black japan finish.

Packed in bulk.
Weight, 166 pounds per 100.

No.....	82-1	82-2	82-3	82-4	82-5	82-6	82-7
Each.....	\$.42	.42	.45	.45	.47	.47	.47
Door....inches	1 $\frac{1}{2}$	1 $\frac{3}{4}$	2	2 $\frac{1}{4}$	2 $\frac{1}{2}$	2 $\frac{3}{4}$	3

No. 69 R-W Steel Bumpers



Suitable for any size door. Made of steel $\frac{1}{4}$ inch thick by 2 inches wide. Black japan finish.

Packed in bulk.
Weight, 111 pounds per 100.

No. 69.....each \$3.33

No. 470 R-W Heavy Flush Pulls



Designed for heavy doors 1 $\frac{3}{4}$ inches or more in thickness. Length, 6 $\frac{1}{2}$ inches overall and 4 $\frac{3}{4}$ inches wide. Inside dimensions of the cup are 3 $\frac{7}{8}$ inches wide by 4 $\frac{1}{2}$ inches high by 1 $\frac{3}{4}$ inches deep. Made of malleable iron. Black japan finish. Packed in bulk.

Weight, 300 pounds per 100.

No. 470.....each \$1.45
Back Plates Required For 1 $\frac{3}{4}$ -inch Door.....each .50

No. 153 R-W Steel Warehouse Door Stay Rollers

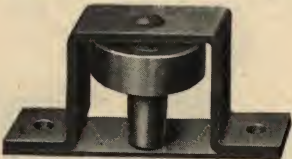


Adjustable and reversible. Wheel, gray iron, 2 $\frac{1}{2}$ -inch diameter; steel frame. Black japan finish.

Packed in bulk.
Weight, 217 pounds per 100.

No. 153.....each \$.69

No. 54 R-W Barn Door Stay Rollers



Used on box stalls and all inside sliding doors, where stay can be attached to floor. Wheel, gray iron, 2 $\frac{1}{2}$ inches diameter, covered with steel frame. Black japan finish.

Packed 12 in a box.
Weight, 221 pounds per 100.

No. 54.....each \$.56

No. 154 R-W Steel Warehouse Door Stay Rollers



Designed for heavy doors. Wheel, gray iron, 3 $\frac{1}{2}$ -inch diameter. Steel frame has screw holes slotted, providing a means for adjustment. Black japan finish.

Packed in bulk.
Weight, 5 pounds each.

No. 154.....each \$2.42

No. 912 Hinge Hasps
Wrought Steel—Red Tipped



Size 6 inches and smaller packed 12 in a box; larger sizes packed 6 in a box.

Without screws.

Length Strap Inches	Bright Steel, per Single Dozen	No. of Screw Holes	Size of Screws	Dozens in Case	WRIGHT, LBS. Per Dozen	Case
3	7	3/4 x 6	25	2	52
4 1/2	8	3/4 x 6	25	2 5/8	69
6	8	1 x 9	10	5 1/8	53
8	8	1 x 10	5	8 1/2	42
10	8	1 1/4 x 10	3	14 1/2	41
12	8	1 1/4 x 12	2	19 1/2	40

Stanley Wrought Steel Safety Hasps



When fastened all screws are covered and cannot be removed. The adjustable feature of the staple permits the hasp to operate when the position of the door is changed by shrinkage.

Staple is in vertical position which permits the padlock to lie flat.

Length Strap.....in.	3 1/2	4 1/2	6	7
No. 915, Plain Steel.....doz. prs.	.....	.....	.....	.....
*No. 915J, Japanned.....doz. prs.	.....	.....	.....	.....
*No. 915K, Cadmium.....doz. prs.	.....	.....	.....	.....
*No. Sc1310, Galv. with Brass Pin and Screws.....doz. prs.	.....	.....	.....	.....
Screw No.....	7	7	9	11
Weight per Dozen.....lb.	3	4	9	24

*With Screws.

No. 482 Wrought Steel Door Pulls



Packed 1 dozen in a box with wood screws. Four screw holes in each handle. No. 4 size packed 6 in a box.

Size No.	J Japanned per Doz.	J1 Dead Black per Doz.	Z Sherardized per Doz.	Length In.
1	\$2.25	\$2.50	\$3.65	5
2	2.50	2.75	4.50	5 3/4
3	2.75	3.25	5.00	6 1/2
4	7.50	8.00	10.00	7 7/8

No. 1265 Wrought Steel Heavy Handles



Made of heavy cold rolled wrought steel. Suitable for use on doors of garages, industrial buildings, etc.

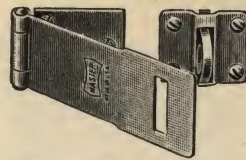
Reinforced at points of greatest strain, and designed so that the full strength of the metal is obtained.

Packed six in a box with screws.

Length, 10 3/4 inches; width, 1 1/4 inches. Width of ends, 2 1/2 inches.

No.	Description	Per Dozen
1265J	Japanned.....	.....
1265J1	Dead Black.....	.....
1265K	Stanley Cadmium.....	.....
1265KJ1	Cadmium, Dead Black.....	.....

No. 704 Master Safety Hasps



Length, 4 1/2 inches. Staple of heavy 1-piece steel stamping. Oversized strong design. Brass pin. Cadmium rustproofed. Packed with cadmium-plated screws.

Packed 1 in a carton; 12 in counter display carton.

No. 704, Weight, 5 1/4 Pounds per Dozen . . . per dozen \$3.00

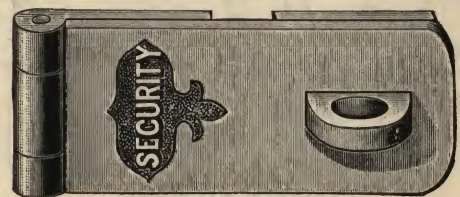
No. 941 Extra Heavy Wrought Steel Hinge Hasps



The 7 1/2-inch size is packed six in a box with screws; larger sizes, three in a box. All with wood screws except plain steel, which are packed without screws.

Length Inches	Galvanized per Doz.	Japanned with Screws per Doz.	Width Joint Inches	Gage of Metal	No. of Screw Holes	Size of Screw Holes	Weight Pounds per Doz.
7 1/2	1 3/4	.165	8	1 1/4 x 12	11 1/2
9	2 1/4	.180	8	1 1/2 x 12	18
10	2 1/8	.180	8	1 1/2 x 12	19 1/2
12	2 1/8	.180	10	1 1/2 x 12	22 1/2

No. 8705 Keil Store Door Hasps and Staples



Heavy grade. Made of cast brass; highly polished.

Screws cannot be tampered with.

Length over all, 4 1/2 inches.

Packed 3 in a box without screws.

Weight, 1 1/2 pounds.

No. 8705.....per dozen \$42.00

Corbin Extruded Metal Padlocks

With Pin-Tumbler Cylinder



No. 2879A

Made from a solid block of extruded brass, bored out to receive mechanism.

Heavy wrought hardened steel shackle, cadmium-plated finish.

Two nickel silver keys to each lock. No two locks alike.

Nos. 2880 1/4 A, 2881 1/4 A and 2882 1/4 A are master-keyed.

Packed one in a box.

No.	Size of Case Inches	Weight Pounds per Dozen	Price per Dozen
2879A	1 x 1 5/16	2 1/8	.....
2880A	1 3/8 x 1 3/16	4	.....
2880 1/4 A	1 3/8 x 1 3/16	4	.....
2881A	1 1/2 x 1 3/8	5 1/2	.....
2881 1/4 A	1 1/2 x 1 3/8	5 1/2	.....
2882A	1 3/4 x 1 3/16	8 5/8	.....
2882 1/4 A	1 3/4 x 1 3/16	8 5/8	.....
2883A	2 x 1 5/8	10 3/8	.....
2884A	2 1/8 x 1 5/8	11 3/8	.....
2885A	2 1/2 x 1 7/8	16 7/8	.....

No. 291A Corbin Extruded Metal Padlocks

Pin tumbler mechanism.
Case is made from solid block of extruded brass, machined out to receive mechanism; satin finish. Width, $1\frac{1}{2}$ inches. Height, $1\frac{3}{8}$ inches. Hardened steel shackle, cadmium plated. Diameter, $\frac{5}{16}$ inch. Height of opening, $1\frac{1}{32}$ inch.
Number of pin tumblers, 5.

Regular key changes, all different. Key blank, No. 8647.

Furnished with two nickel silver keys to each lock. Packed 1 in box, 6 in carton.

No. 291A, Weight per Dozen, $5\frac{3}{8}$ Pounds.....each
No. 291AC, with 9-Inch Brass Chain No. 3.....each

No. 9966 Corbin Die Cast Padlocks

Pin tumbler cylinder.
Solid die cast case, satin finish. Width, $1\frac{5}{8}$ inches. Height, $1\frac{1}{2}$ inches.

Hardened steel shackle, cadmium plated. Diameter, $\frac{3}{32}$ inch. Height of opening, $\frac{1}{4}$ inch.

No. of pin tumblers, 6.
Regular key changes, all different. Key blank, No. 8687. Furnished with two nickel silver keys to each lock.

Packed 1 in a box, 6 in a carton.
Weight per dozen, $5\frac{1}{2}$ pounds.

No. 9966.....each

No. 9966C, with 9-In. Steel, Cadmium-Plated Chain No. 5.....each
No. 5.....each

Corbin Padlocks**5 Disc-Tumbler**

Solid die cast body. Duralith finish. Wrought steel, nickel plated shackle; 200 different key changes possible. Blank No. 8658BP. Keys, 2 milled nickel plated.

Packed one dozen in a box.

No.	9913X	9914X	9915X
Per Doz.	.....	.....	.....
Size...in.	$1\frac{1}{2}$	$1\frac{3}{4}$	$2\frac{1}{8}$
Clearance	.....	.....	.....
.....in.	$\frac{7}{8}$	1	$1\frac{1}{8}$
Wt....lb.	$4\frac{1}{2}$	6	9

No. 22 Master Strong Boy Padlocks

This padlock has a $1\frac{1}{2}$ -inch laminated steel case.

The shackle is made of high carbon steel; $\frac{5}{8}$ -inch inside vertical clearance; $\frac{1}{4}$ -inch diameter.

Strong spring security.

Cadmium rust proofed.

Has 2 embossed nickel-plated corrugated steel keys; 20 different key changes. Can be keyed alike or master keyed at no extra cost.

Weight per dozen, $4\frac{1}{4}$ pounds.

Individually packed, one dozen to a display carton.

No. 22.....per dozen **\$3.00**

No. 22C, 9-inch chain attached to shackle, 15 cents extra per lock.

No. 7 Master Secret Service Padlocks

This padlock has a laminated steel case, $1\frac{1}{16}$ inches wide. The shackle is made of manganese steel; $\frac{5}{16}$ -inch vertical clearance; $\frac{3}{16}$ -inch diameter.

High grade brass cylinder; pin tumbler security; brass locking lever; steel pilfering protector prevents tampering through key-way.

Cadmium rust proofed inside and out.

Has 2 embossed nickel silver keys; 750 different key changes. Can be keyed alike at no extra cost or master keyed at \$3.00 per dozen additional.

Individually packed, 6 to a carton.

Weight per dozen, 3 pounds.

No. 7.....per dozen **\$6.00**

No. 3 Master Secret Service Padlocks

This padlock has a $1\frac{1}{2}$ -inch laminated steel case. The shackle is made of hardened steel; $\frac{5}{8}$ -inch vertical clearance; $\frac{3}{2}$ -inch diameter.

Solid brass cylinder; high grade nickel silver pin tumbler security; solid brass locking lever; steel pilfering protector.

Rust proofed with pure cadmium.

Has 2 embossed nickel silver keys; key changes practically unlimited. Can be keyed alike at no extra cost or master keyed at \$3.00 extra per dozen.

Individually packed; 6 in a display carton.

Weight per dozen, 5 pounds.

No. 3.....per dozen **\$9.00**

No. 3C, with 9-Inch Chain Attachment.....per dozen **10.50**

No. 1 Master Secret Service Padlocks

This padlock has $1\frac{3}{4}$ -in. laminated wedge riveted steel case. Hardened reinforced tapered steel shackle. Sturdy solid brass locking lever. Steel jacketed pilfering protector. Heavy brass cylinder and operating cam, and genuine nickel silver pin tumblers and drivers. Shackle imbeds itself deeply into case. Vertical clearance, $\frac{3}{4}$ -in. Shackle, $\frac{5}{16}$ -inch diameter.

Padlock is rustproofed inside and out with pure cadmium.

Has two nickel silver embossed keys. Key changes are practically unlimited. Can be keyed alike, no extra charge, or master-keyed at \$3.00 extra per dozen. Individually packed, 6 to a display carton. Weight per dozen, 8 pounds.

No. 1.....per dozen **\$12.00**

No. 1C, 9-Inch Chain Attached.....per dozen **13.50**

No. 5 Master Secret Service Padlocks

Has 2-inch laminated steel case; solid brass cylinder, nickel silver pin tumbler security, key changes practically unlimited. Hardened steel shackle, $\frac{3}{8}$ -inch in diameter, 1-inch inside vertical clearance. Solid brass locking lever. Steel pilfering protector; rust-proofed with pure cadmium; 2 embossed nickel silver keys.

Can be keyed alike at no extra cost or master keyed at \$3.00 extra per dozen.

Individually packed in colored cartons, 6 to a display carton.

Weight, $12\frac{1}{2}$ pounds per dozen.

No. 5, 1-Inch Shackle.....per dozen **\$15.00**

No. 5C, with 9-Inch Chain Attachment.....per dozen **16.50**

No. 603 Yale Die-Cast Padlocks Disc-Tumbler Mechanism



Size, 1½ inches. Green lacquered, die-cast case.

Steel shackle is baked aluminum over cadmium plate. Shackle, ¼-inch diameter with ¾-inch clearance.

Five disc-tumblers.

Furnished with two No. 603A keys; 200 key changes. Cannot be master-keyed.

Packed 1 in a box.

Weight per dozen, 4½ pounds.

No. 603.....per dozen \$4.66
No. 603½, with 8 Inches of 41S Chain.....per dozen 6.33

Yale Solid Forged Steel Padlocks 5 Disc-Tumbler Mechanism

Forged steel case, baked aluminum finish. Hardened steel shackle, baked aluminum over cadmium plate. Two No. 143 keys; key changes, 200.

Can be furnished master-keyed in one group in any number up to 3000; cannot be grand master-keyed.



No. 143—1½-Inch Size
Diameter shackle, ¼ in.; clearance, ¾ inch.

One in box; 6 in carton.

Weight per doz., 6 lbs.

No. 143...per dozen \$6.66

No. 144—1¾-Inch Size
Diameter shackle, ⅝ in.; clearance, ⅞ inch.

One in box; 6 in carton.

Weight per doz., 8 lbs.

No. 144...per dozen \$10.00

Yale Die Cast Padlocks



No. 713

Five disc tumbler mechanism.

Has 200 key changes. Two keys are furnished with each lock. Can be master-keyed.

Steel shackle, casehardened.

Chromium plated case.

Packed 6 in a box.

No.....	713	714	715
Per Dozen.....	\$10.00	13.35	16.67
Size Case.....inches	1½	1¾	2
Diameter Shackle.....inches	¼	⅝	¾
Clearance Shackle.....inches	¾	¾	¾
Weight Pounds.....per dozen	4½	6	9¼

No. 627 Yale Padlocks

Pin-Tumbler



Width, 1½ inches.

Die-cast metal case, royal blue enamel finish.

Has 1800 key changes.

Furnished with two No. 33½ keys.

Steel casehardened baked aluminum over cadmium plated shackle.

Packed 1 in a box; 6 in a carton.

Weight per dozen, 5 pounds.

No. 627.....per dozen \$10.00

Yale Die-Cast Padlocks Pin Tumbler Mechanism



Die-cast metal case.

Baked brass finish.

Five pin tumblers.

Can be masterkeyed.

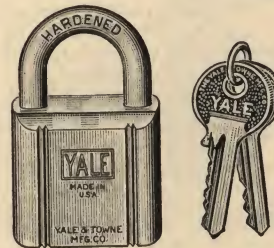
Two keys.

Hardened steel shackle, baked aluminum over cadmium.

Packed each in a box, 6 in a carton.

No.....	793	794
Per Dozen.....	\$9.00	12.00
Size Case.....inches	1½	1¾
Two Keys.....No.	33½	385
Key Changes.....	1800	7000
Weight per Dozen.....pounds	4½	7

Yale Brass Padlocks Pin-Tumbler Mechanism



No. 771

Size, 1 inch.

Solid brass, polished case; casehardened, cadmium-plated steel shackle. Four pin-tumblers. Two No. 24½ keys; 500 changes.

One in box; 6 in ctn. Weight per dozen, 2½ lb. No. 771 per dozen.....\$13.35

No. 772

Size, 1¼ inches.

Solid brass, polished case; casehardened, cadmium-plated steel shackle. Five pin-tumblers. Two No. 13½ keys; changes practically unlimited. Can be master-keyed.

One in box; 6 in ctn. Weight per dozen, 3¾ pounds. No. 772.....per dozen \$15.56

No. 773

Size, 1½ inches.

Solid brass, polished case; casehardened, cadmium-plated steel shackle. Five pin-tumblers. Two No. 13½ keys; changes practically unlimited. Can be master-keyed.

One in box; 6 in ctn. Weight per dozen, 5 pounds. No. 773.....per dozen \$16.67

No. 774

Size, 1¾ inches.

Solid brass, polished case; casehardened, cadmium-plated steel shackle. Five pin-tumblers. Two No. 8 keys; changes practically unlimited. Can be master-keyed.

One in box; 6 in ctn. Weight per dozen, 7 pounds. No. 774.....per dozen \$20.00

No. 775

Size, 2 inches.

Solid brass, polished case; casehardened, cadmium-plated steel shackle. Five pin-tumblers. Two No. 8 keys; changes practically unlimited. Can be master-keyed.

One in box; 6 in ctn. Weight per dozen, 9 pounds. No. 775.....per dozen \$22.22

Yale Cast Bronze Padlocks



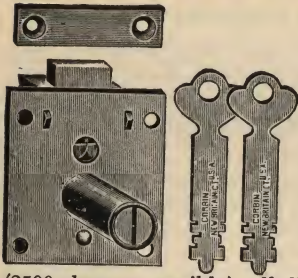
Cast bronze case, polished, cadmium-plated, case-hardened steel shackle; 5-pin tumblers. Key changes practically unlimited. Two milled keys. Can be furnished keyed alike or can be master keyed.

Packed 1 in a box; 6 in a carton.

Size Inches	KEYED ALIKE		MASTER KEYED		Wt., Lbs. per Box
	No.	Per Doz.	No.	Per Doz.	
1½	830	\$26.66	830MK	\$34.00	2¾
1¾	840	30.00	840MK	37.34	4¼
2	850	33.34	850MK	40.68	5¼
2½	870	53.34	870MK	60.68	7

With 8 Inches of 42S Chain

1¾	840½	\$31.66	840½MK	\$39.00	...
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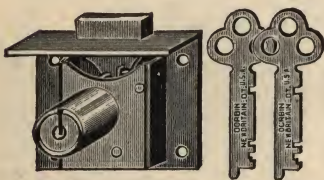
Corbin Drawer Locks

Steel or all brass; size $1\frac{1}{8} \times 1\frac{1}{8}$ inches; $1\frac{1}{8}$ inches from seldge to center of cylinder. Made regularly for $\frac{7}{8}$ -inch wood; also made for $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1 and $1\frac{1}{8}$ inch without extra charge. Steel strike 49 $\frac{1}{2}$ S. Brass strike 49S. Broad bolt. 2 levers. All different in a dozen. Made regularly in 12 changes.

Key changes all different (2500 changes possible), all different and master-keyed (465 changes possible), and any thickness of wood desired.

Packed 6 in a box, weight $2\frac{1}{8}$ pounds.

No. 699, Steel.....per dozen
No. 0699, All Brass.....per dozen

Corbin Drawer Locks**Secure Lever**

Tube $\frac{1}{32}$ -inch diameter; Size $1\frac{3}{4} \times 1\frac{1}{2}$ inches; $\frac{3}{4}$ inch from seldge to center of cylinder.

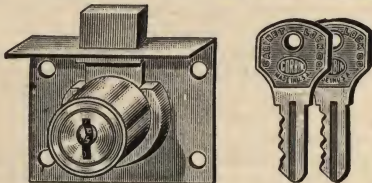
Made regularly for $\frac{7}{8}$ -inch wood; also made for any thickness without extra charge. Broad, heavy bolt.

Two levers; two flat steel keys to each lock. All different in a dozen.

Key changes all different (7770 changes possible), all different and master-keyed (1290 changes possible), extra price.

Packed 6 in a box. Weight per dozen, $1\frac{3}{8}$ pounds.

No. 590, Steel.....per dozen
No. 0590, Brass.....per dozen

No. 02065 Corbin Drawer Locks

Brass, with heavy brass bolt. Cast cylinder; square seldge.

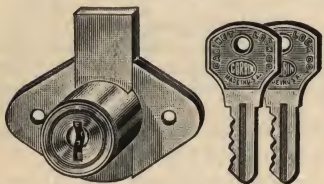
Disc tumbler construction; 5 discs; 200 key changes; 2 brass nickel-plated keys to each lock; key blank No. 8658BP.

Key changes all alike, alike in sets, furnished at special prices.

Size, $2 \times 1\frac{1}{8}$ inches; drop, $\frac{3}{4}$ inch; thickness of wood, $\frac{7}{8}$ inch; throw, $\frac{1}{2}$ inch; diameter of cylinder, $\frac{1}{8}$ inch.

Packed 6 in a box. Weight per dozen, $1\frac{5}{8}$ pounds.

No. 02065.....per dozen

No. 02066 Corbin Drawer Locks

Back plate is steel, brass plated. Die cast brass-plated cylinder, $\frac{1}{8}$ inch diameter. Steel brass-plated dead bolt, $\frac{1}{2}$ inch throw, $\frac{5}{8} \times \frac{3}{16}$ inches.

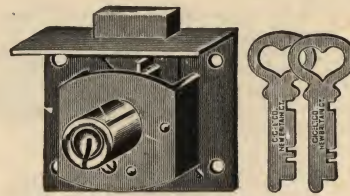
Size, $2 \times 1\frac{1}{8}$ inches. Seldge to center of cylinder, $\frac{3}{4}$ inch; made regular for wood, $\frac{7}{8}$ inch; also

made for wood, $\frac{3}{4}$ and $1\frac{1}{8}$ inches, at no extra charge. Furnished with 2 brass nickel-plated keys for each lock; 1 key each when locks are alike; No. 8658BV key blank; 200 regular key changes; 200 possible key changes; 180 master-keyed key changes; 5 disc tumblers.

Packed $\frac{1}{2}$ dozen in a box.

Weight per dozen, $3\frac{1}{8}$ pounds.

No. 02066.....each

No. 0675 Corbin Drawer Locks**Secure Lever**

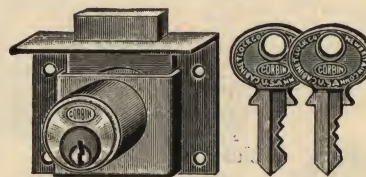
All brass, size $2 \times 1\frac{3}{4}$ in. Square seldge; $\frac{7}{8}$ inch from seldge to center of cylinder. Made regularly for $\frac{7}{8}$ -inch wood; also made for 1, $1\frac{1}{8}$, and $1\frac{1}{4}$ -inch wood, same price. Cast brass box and cylinder; 100

changes. Broad, heavy bolt; screwed. Three levers; two polished nickel-plated flat steel keys. All different in a dozen.

Key changes all different (7770 changes possible), all different and master-keyed (1290 changes possible), and any thickness of wood desired, furnished at no extra price.

Packed 6 in a box. Weight, $2\frac{1}{4}$ pounds per dozen.

No. 0675.....per dozen

No. 0665 Corbin All Brass Drawer Locks**Pin-Tumbler Cylinder**

Made regularly for $\frac{7}{8}$ -inch wood, can also be made for $\frac{5}{8}$ and $\frac{3}{4}$ -inch wood. Size $2 \times 1\frac{1}{2}$ inches. $\frac{3}{4}$ inch from seldge to center of cylinder.

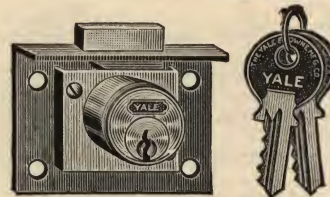
Has square seldge, broad, heavy bolt.

Two nickel-silver keys to each lock. No. of changes unlimited.

Key blank No. 8632.

Packed 1 in a box.

No. 0665.....per dozen
Weight, per Dozen.....pounds $2\frac{3}{4}$

No. 5551 Series Yale Drawer Locks

Solid brass box, screwed. Heavy, broad bolt. Brass cylinder, buffed nose, $\frac{7}{8}$ -inch diameter. May be furnished nickel-plated to special order at extra charge. Square polished seldge. Two keys to each lock. Key changes

practically unlimited. Locks ordered alike regularly furnished with one key each. Can be master-keyed at an extra charge.

Size, $1\frac{1}{2} \times 2$ inches. For $\frac{3}{4}$ -inch wood. Packed 1 in a box.

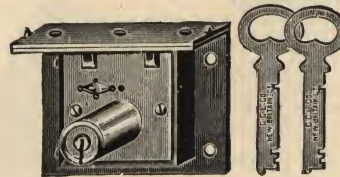
No..... 5551 5551 $\frac{1}{4}$ 5551S

Per Dozen..... \$26.67 26.67 26.67

Style Bolt..... Dead Dead Spring

*Drop.....inches $\frac{3}{4}$ $1\frac{1}{8}$ $\frac{3}{4}$

*Distance from edge of seldge to center of cylinder.

No. 0142P Corbin Chest Locks**Double Link, Secure Lever**

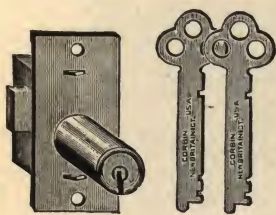
All brass, dipped and lacquered. Size $2 \times 1\frac{1}{2}$ inches; $\frac{7}{8}$ inch from seldge to center of cylinder. Made regularly for $\frac{3}{4}$ -inch wood, also made for $\frac{7}{8}$ -inch wood without extra charge. Screwed; solid box; three levers;

round link. All different in a dozen. Two unpolished nickel-plated flat steel keys to each lock.

Key changes all alike, alike in sets, all different, all different and master-keyed, and any thickness of wood desired, at special prices.

Packed 6 in a box. Weight, $1\frac{5}{8}$ pounds per dozen.

No. 0142P.....per dozen

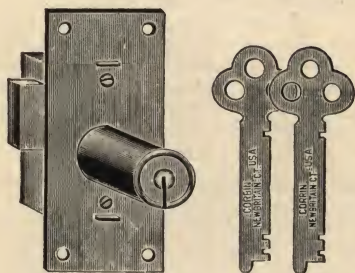
Corbin Wardrobe Locks**Secure Lever**

Size $1\frac{7}{8} \times \frac{7}{8}$ inches. Made regularly for $\frac{7}{8}$ -inch wood. Also made for $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, 1, and $1\frac{1}{8}$ -inch wood without extra charge. Solid box; brass bolt that shoots right and left; two secure levers, two polished nickel plated flat steel keys to each lock. All different in a dozen.

Key changes all different (1290 changes possible), all different and master-keyed (210 changes possible), and any thickness of wood desired, furnished at special prices.

Packed 6 in a box, weight $1\frac{1}{8}$ pounds per dozen.

No. 0749, All Brass..... per dozen

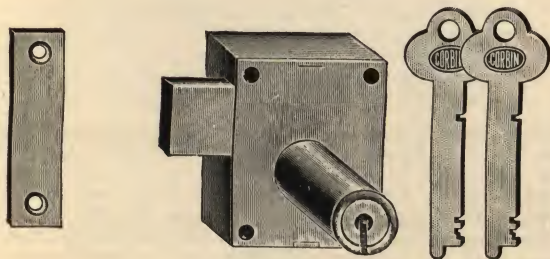
Corbin Wardrobe Locks**Secure Lever**

Size, $2\frac{3}{4} \times 1\frac{1}{4}$ inches. Cylinders three lengths in each dozen for $\frac{7}{8}$, 1 and $1\frac{1}{8}$ -inch wood. Solid box; screwed; broad heavy brass bolt that shoots right and left; two secure levers. Two flat steel keys. All different in a dozen.

Key changes all different (7770 changes possible), all different and master-keyed (1290 changes possible), and any thickness of wood desired, furnished at special price.

Packed 3 in a box. Weight, $2\frac{1}{2}$ pounds per dozen.

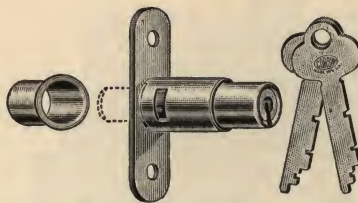
No. 750, Steel.....per dozen
No. 750, Keys Alike.....per dozen
No. 0750, All Brass.....per dozen

Corbin Locker Locks**Secure Lever**

Size $2 \times 1\frac{5}{8}$ inches. Square box; heavy brass bolt, projecting $\frac{3}{4}$ inch, for either right or left hand; 5 secure levers; 52S strike. Made regularly for $\frac{7}{8}$ -inch wood but also made for any thickness without extra charge; $\frac{3}{4}$ inch from seldge to center of cylinder. Two flat steel keys; all different in a dozen; 16800 changes possible or 2394 master-keyed. In sets with master key when desired.

Packed 3 in a box. Weight per dozen, $4\frac{3}{4}$ pounds.

No. 755, Steel.....per dozen
No. 0755, All Brass.....per dozen

No. 02285 Corbin Sliding Door Locks**Warded Mechanism**

For $\frac{7}{8}$ -inch wood; can also be supplied for $1\frac{1}{8}$ -inch wood at no extra charge.

Made of brass. Size $2 \times \frac{5}{8}$ inches. Diameter tube, $\frac{9}{16}$ inch. Diameter bolt, $\frac{1}{32}$ inch; throw, $\frac{1}{16}$ inch. Two flat steel keys;

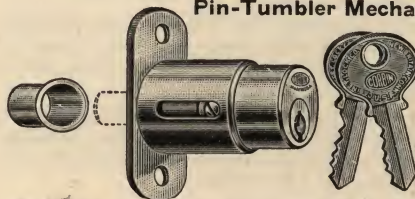
No. 4773 key blank; six changes. Keyed alike at no extra charge. Furnished with No. 02290S brass cup strike.

Push bolt type; to lock, push end of cylinder; to unlock, use key.

Packed 6 in a box.

Weight per dozen, $1\frac{1}{4}$ pounds.

No. 02285, Burnished Brass.....per dozen

No. 02291 Corbin Sliding Door Locks**Pin-Tumbler Mechanism**

For $\frac{7}{8}$ -inch wood; can also be supplied for 1 or $1\frac{1}{8}$ -inch wood at no extra charge.

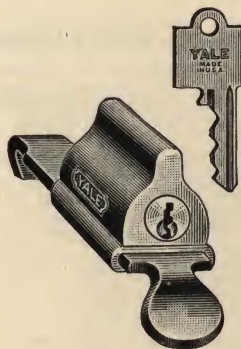
Made of brass. Size 2×1 inches.

Diameter cylinder, 1 inch. Diameter bolt, $\frac{1}{32}$ inch; throw, $\frac{1}{16}$ inch. Two nickel silver keys; No. 8618 Key Blank. 4000 changes. Keyed alike or all different at no extra charge. Furnished with No. 02290S brass cup strike.

Push bolt type; to lock, push end of cylinder; to unlock, use key.

Packed 6 in a box. Weight per dozen, $3\frac{5}{8}$ pounds.

No. 02291, Brushed Brass.....per dozen

No. L101 Yale Personal Locks**Pin-Tumbler Mechanism**

Can be carried in the pocket or traveling bag and is quickly applied to the door without the use of any tools, or defacing the door or casing.

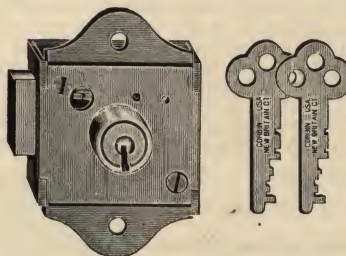
For use on hotel room and closet doors, locker doors, wine closet and dumbwaiter doors or residential and apartment entrance doors.

Extruded brass case, highly polished. Steel locking bar, case-hardened and nickel plated.

Supplied with one key.

Packed 1 in a box.

No. L101.....each \$2.00

No. 582X Corbin Locker Locks

Made of steel.

Brass tube, $\frac{5}{8}$ inch diameter. Brass dead bolt, $\frac{5}{16}$ inch throw, $\frac{3}{4} \times \frac{1}{4}$ inches.

Size, $1\frac{1}{2} \times 1\frac{5}{8}$ inches. Seldge to center of tube, $\frac{7}{8}$ inch; made regular for $\frac{1}{4}$ -inch metal, also made for $\frac{3}{4}$ -inch metal, at no extra charge; 3 secure levers; 2 flat steel keys

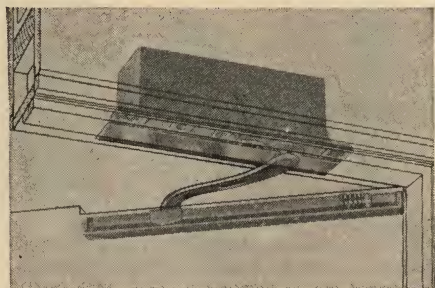
to each lock; No. 4120A key blank; 12 regular key changes; 7770 possible key changes; 1290 master-keyed key changes.

Packed $\frac{1}{2}$ dozen in a box.

Weight per dozen, $3\frac{3}{8}$ pounds.

No. 582X, Cadmium Plated.....each

LCN Single-Acting Overhead Concealed Door Closers



Entirely concealed in the head frame and door; provides constant control, with full rack-and-pinion checking mechanism and two-speed closing action, easily adjustable. Hold-open feature if desired.

No. 202 for light interior doors not over 3 feet wide.

No. 204 for interior doors not over 3½ feet wide; for outswinging entrance and vestibule doors not over 2 feet 10 inches wide; and for inswinging entrance and vestibule doors not over 2½ feet wide.

No. 206 for extra heavy interior doors not over 4 feet wide, for outswinging entrance and vestibule doors 2 feet 10 inches to 3 feet 4 inches wide, and for inswinging entrance and vestibule doors 2 feet 6 inches to 3 feet wide.

Butt hinges not furnished with closer.

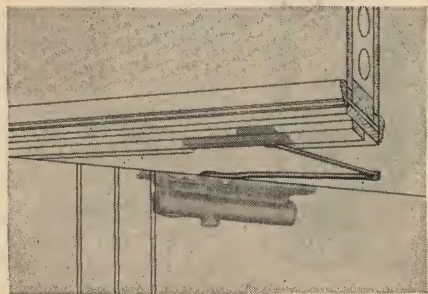
Without Hold-Open Feature		With Hold-Open Feature		Overall Length Inches	Overall Width Inches	Overall Height Inches
No.	Each	No.	Each			
202-132	\$38.00	202-134	\$44.00	13	3½	4
204-132	38.00	204-134	44.00	13	3½	4
206-132	48.00	206-134	54.00	13½	3⅞	4¼

For plated finishes add \$3.00.

Also available with exposed lever arms for use where it is not practicable to mortise door, and where concealment of arm is not required.

Installation templates on request.

LCN Single-Acting Concealed-in-Door Closers



Meets the wide demand for a concealed closer for use with light to medium weight interior doors of wood or metal not over 3x7-foot and at least 1¾ inches thick.

Overall dimensions: Length, 10¼ inches; width, 1⅝ inches; height, 2⅝ inches.

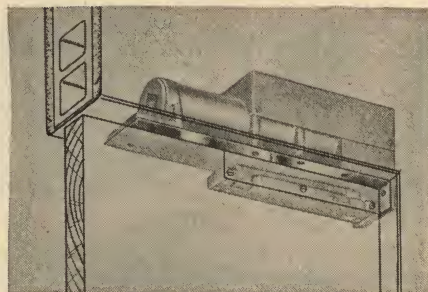
No. 303-136, without Hold-Open Feature.....each \$16.00

No. 303-136H, with Hold-Open Feature.....each 18.00

For plated finishes add \$2.00.

Installation templates on request

LCN Double-Acting Overhead Concealed Door Closers



Ideal for medium to heavy double-acting doors. Concealed in head frame, away from floor dirt and scrub water. Full control of door; no slaps. Pivots furnished with closer.

No. 444-150 for interior doors not over 3½ feet wide, or light vestibule doors not over 2 feet 6 inches wide.

No. 466-150 for heavy interior doors not over 4 feet wide or vestibule doors not over 3 feet wide.

No.	Each	Overall Length Inches	Overall Width Inches	Overall Height Inches	Dist. Jamb to Pivot Center Inches
444-150	\$60.00	15¼	3½	4¼	1½
*444-150	60.00	16¼	3½	4¼	2½
466-150	70.00	15¼	3½	4¼	1½
*466-150	70.00	16¼	3½	4¼	2½

LCN Overhead Concealed Closer—For Residential Use

Designed for double-acting kitchen, pantry, dining room doors. Full control of door; no free swing or "flapping." Door is hung on special bronze ball-bearing pivots which are furnished. Closer is fully concealed in head frame.

Overall dimensions: Length, 10⅝ inches; width, 2½ inches; height, 3 inches. Hold-open feature standard.

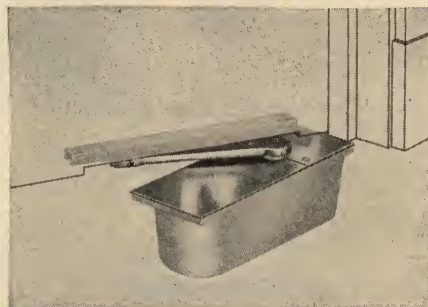
No. 422-150.....each \$23.50

For plated finishes add \$3.00.

Installation templates on request.

*Must be used for doors over 1¾-inches thick.

LCN Single-Acting Floor Type Concealed Door Closers



Door hung on butts, independent of closer, which carries none of door's weight. Typical LCN mechanism with lever arm.

No. 2-129 for light interior doors not over 3 feet wide.

No. 4-129 for interior doors not over 3½ feet wide, for outswinging entrance and vestibule doors not over 2 feet 10 inches wide and inswinging entrance and vestibule doors not over 2½ feet wide.

No. 6-129 for extra heavy interior doors not over 4 feet wide, for outswinging entrance and vestibule doors 2 feet 10 inches to 3 feet 6 inches wide, and for inswinging entrance and vestibule doors 2 feet 6 inches to 3 feet wide.

Butt hinges not furnished with closer.

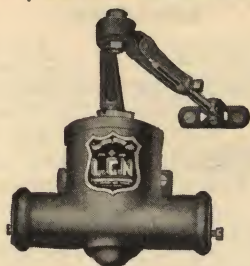
No.	Each	Overall Length Inches	Overall Width Inches	Overall Height Inches
2-129	\$28.00	11¾	4½	3⅞
4-129	38.00	11¾	4½	3⅞
6-129	48.00	12½	5⅝	3⅞

Above prices cover bronze, brass or aluminum finishes.

Installation templates on request.

We are in a position to furnish practically everything used in factory, mill or shop.

LCN Leakproof Door Closers



The coil made from special analysis high carbon steel exerts a powerful closing force against a liquid cushion which acts as a checking medium.

The speed of closing is regulated by a simple adjusting screw, which gives either a quick release (used in connection with electric latches or panic bolts), or a quiet closing for use in hospital work. These screws are set at the factory so that two complete turns of the screw automatically places the closer in proper adjustment. The opening speed can also be controlled by means of the opposite regulating screw in connection with the double-headed piston.

The shaft is of four-bearing low friction design, highly polished and will last for the life of the closer.

The hold-open feature, located at the ends of the arms, is exceedingly simple to operate and has no springs to break or lugs to wear out. It is designed on the cam principle and built on a center line. It is universal and uniform in appearance for right or left hand doors, making them fool proof.

The general design of the closer has been worked out so that it presents a pleasing appearance to the eye. The materials contained in the makeup of this closer are of high quality.

Size A is for screen, storm, and light interior doors. Size B is for interior doors size 2'8"x7 feet. Size C is for interior doors 3x7 feet or light exterior doors 2½x7 feet. Size D is for extra heavy interior doors and average 3x7-foot exterior doors. Size E is for wide and heavy exterior doors. Size F is for extremely heavy exterior factory or refrigerator doors.

With Regular Arms

Size	Standard Gold Bronze Silver Bronze Dead Black Each	Plated Finishes on Iron		Shipping Weight Pounds
		Unpolished Each	Polished Each	
A	\$8.65	\$12.00	\$19.35	9
B	11.00	14.40	22.00	11
C	13.35	16.65	25.35	15
D	16.00	19.45	28.00	18
E	21.35	24.65	34.65	22
F	26.65	30.00	40.00	24

Furnished with key type adjusting screws if wanted.

With Hold-Open Arms 100° or 180°

A-H	\$10.65	\$14.00	\$21.35	10
B-H	13.00	16.40	24.00	12
C-H	15.35	18.65	27.35	16
D-H	18.00	21.45	30.00	19
E-H	23.35	26.65	36.65	23
F-H	28.65	32.00	42.00	25

Special paint finish to match, all sizes 50 cents each.

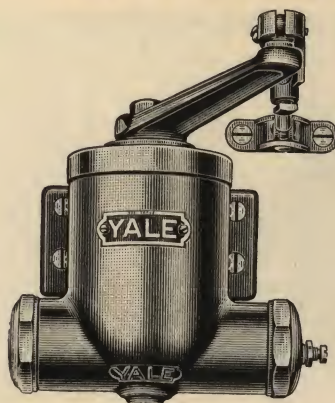
Coils for LCN Door Closers



Genuine LCN Coils made from special high carbon steel, rolled to order.

Size	A	B	C	D	E	F
Each	\$1.00	1.25	1.65	2.10	3.15	4.00

Model YR Yale Reversible Door Closers



Can be used on right or left hand doors without any mechanical change. Simple two-speed adjustment for silent or release action at latch.

Closing power is obtained from a powerful coiled spring controlled by a piston moving in a cylinder filled with a special non-freezing lubricating liquid. As door is opened, piston is withdrawn in the cylinder and the liquid passed through ball valve. When door closes, the ball valve seats and the liquid confined by the piston can escape only through the dual ports controlled by the regulating valve.

Doors of metal or with heavy plate glass and those exposed to severe draft, require size larger than shown below.

Standard finish is brown lacquer. Can be furnished in gold, silver bronze, or dead black at regular price, and in special finishes at slight extra cost.

Can be equipped with a removable regulating key instead of the slotted regulating screw.

Description	Iron		Solid	
	B. L. No.	Finish Each	Bronze No.	Metal Each
For Screen or Very Light Inside Doors	71	\$8.65	B71	\$26.65
For Light Inside Doors	72	11.00	B72	32.00
For Inside Doors of Medium Size	73	13.35	B73	37.35
For Heavy Inside or Ordinary Outside Doors	74	16.00	B74	45.35
For Heavy Outside Doors	75	21.35	B75	53.35
For Extra Heavy Outside Doors	76	26.65	B76	64.00

Brackets for L-C-N Door Closers

No. 10 Soffit Bracket

Where opening requires closer applied on a bracket and conditions permit, the use of the Soffit Bracket is recommended, as it places the closer out far enough from the hinge to allow the maximum leverage of arms to control the door.



No.	Base Inches	No.	Base Inches
1-A-10	1½x3½	1-D-10	1½x4¾
1-B-10	1½x3½	1-E-10	1½x5½
1-C-10	1½x4½	1-F-10	1½x5½

No. 11 Corner Bracket

Used where closer is required to swing door 180° only, and where it is necessary to have head room clearance by placing closer in corner of door frame.



No.	Base Inches	No.	Base Inches
1-A-11	1 x4½	1-D-11	1½x5½
1-B-11	1 x4½	1-E-11	1½x5½
1-C-11	1¼x4½	1-F-11	1½x5½

No. 12 Flush Bracket

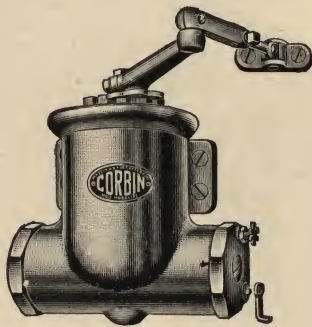
Used where head stop and jamb are not wide enough to permit use of the Soffit Bracket.



No.	Base Inches	No.	Base Inches
1-A-12	2¾x3½	1-D-12	2¾x4¾
1-B-12	2¾x3½	1-E-12	2¾x4¾
1-C-12	2½x4¼	1-F-12	3 x5

Corbin Door Checks

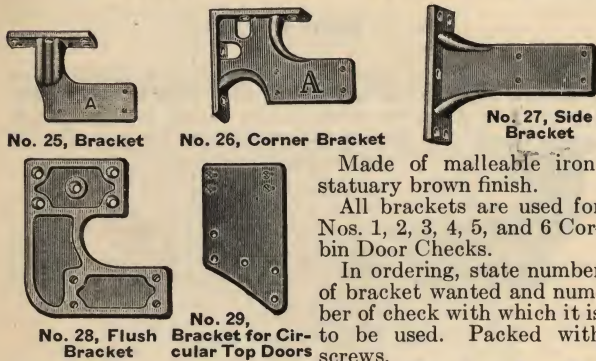
Without Automatic Hold Back Attachment



Made of cast iron; statuary brown finish.
Right or left hand without change.
Not affected by extremes of temperature.
Through a dual valve control it is possible to regulate the speed of closing of the door. It can be made to move quickly to a point near the jamb and then close slowly, or it can be made to close at a uniform rate of speed. In each case the adjustment is simple, accurate, and easy to make by means of the 2 valves.
Packed 1 in box with simple instructions.

No.	Each	Description	Wt. Lbs.
1	For Screen Doors.....	7
2	For Light Inside Doors Not over 7x3 Feet.	10
3	For Heavy Inside Doors or Outside Doors Not over 7x2½ Feet.....	14¾
4	For Outside Doors Not over 7½x3 Feet....	19¾
5	For Doors Not over 7½x4 Feet.....	23¾
6	For Extra High Doors and Extra Heavy Doors.....	28¼

Brackets for Corbin Door Checks



Made of malleable iron, statuary brown finish.
All brackets are used for Nos. 1, 2, 3, 4, 5, and 6 Corbin Door Checks.
In ordering, state number of bracket wanted and number of check with which it is to be used. Packed with screws.

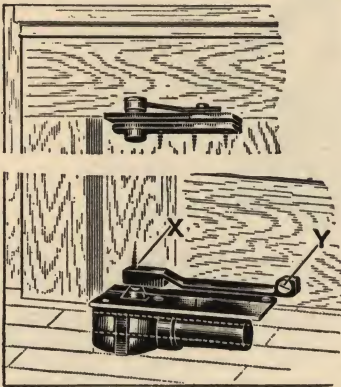
Check Nos.....	1	2	3	4	5	6
Nos. 25, 26, 27, 28 or 29. ea.	.....	.....	.....	.....	.....	.....

No. 139 Springs for Corbin Door Checks

The spring is light, long and resilient. The tension is evenly distributed over 20 coils of flat wire which are so made that they do not touch each other, eliminating internal friction and permitting the full power of the spring to be exerted in performing its function.

No.	For Door Check No.	Price Each
139	1	.....
139	2	.....
139	3	.....
139	4	.....
139	5	.....
139	6	.....

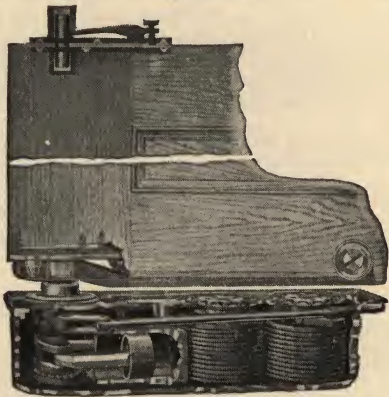
Rixson Double-Acting Floor Checks
Small Sizes



For use on light interior doors only. It permits the door to swing in both directions yet brings the door quietly to rest at center.
When opened to right angles the door is automatically held in that position so that no door holder is needed.
A cast iron floor box, called cement case, must be used when the check is set in masonry floors.
Packed 1 in a carton, 12 in a case.

Prices are for dull or polished brass or bronze.
Junior size, for Doors up to 2 Feet 8 Inches Wide
..... each \$10.00
No. 10, for Doors up to 2 Feet 8 Inches Wide ..each 15.00
No. 15, for Doors up to 3 Feet Wide.....each 18.00
Cement Case.....each 1.00

Large Sizes



For entrance and vestibule doors.
The spindle, links, and other parts subjected to wear are made of drop-forged or of stamped steel and case hardened. The spindle runs on ⅝-inch steel balls and the whole device is filled with non-freezing checking liquid, which possesses high lubricating qualities.
Two springs and two checking mechanisms are used, one spring and check operating when the door swings on one side of the doorway, and the second spring and check operating when the door swings on the other side of the doorway. Each spring and check is adjustable independently.
Prices include cement case and are for dull or polished brass or bronze.
No. 30, for Doors not Over 2½x7½ Feet.....each \$44.00
No. 40, for Doors not Over 3½x7½ Feet.....each 60.00

Rixson Single-Acting Floor Checks

For interior, entrance and vestibule doors. Being of the offset type, the door can be opened to 180°, trim permitting closing the door from this point.
Made of high grade forgings, castings and stampings. All working parts are immersed in a checking liquid which also serves as a lubricant. To meet varying conditions, the spring-power is adjustable.
The weight of the door rests on a drop-forged and case hardened steel spindle which is supported in the device on ball bearings.
An automatic hold-open feature can be supplied at no additional charge. Specify degree of hold-open.
Prices are for dull or polished brass or bronze.
No. 18.....each \$24.00
No. 20, for Doors not Over 2½x8 Feet.....each 30.00
No. 25, for Doors not Over 3½x8 Feet.....each 38.00

No. 504 Yale Pneumatic Screen Door Closers

Right or left hand without change in mechanism. Can be applied only on the inside between doors. Space required between doors, 2 inches.

Wrought brass tube, $10\frac{3}{4} \times 1\frac{1}{4}$ inches. Heavy wrought steel brackets. Length overall, 16 inches. Concealed spring.

Packed 1 in a box.

Weight, 1 pound 5 ounces.

No. 504.....each **\$1.50**

No. 506 Yale Airliner Door Closers

Stops noisy slamming of screen doors, storm doors and combination doors. The air in the cylinder cushions the closing action of the adjustable spring. Reversible for right or left hand doors; inside or outside. Brass regulating valve screw gives exactly the speed of closing desired. Spring is concealed, protecting against dirt and rust; brown lacquer finish, with polished brass cylinder.

Requires only 2 inches space between doors; 17 inches length overall.

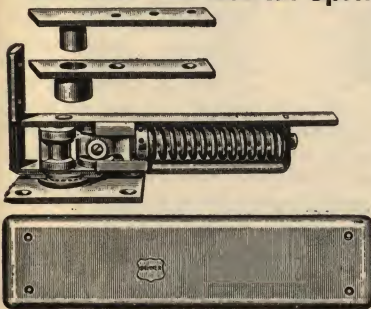
Packed one in a carton with wrench and directions.

Weight, 2 pounds $11\frac{1}{2}$ ounces.

No. 506.....dozen **\$22.22**

Liquid for Door Closers

1-Pint Containers.....each **\$1.25**
1-Quart Containers.....each **2.00**
1-Gallon Containers.....each **6.00**

Bommer Horizontal Spring Pivot Hinges

For doors $1\frac{1}{8}$ to $1\frac{3}{4}$ inches. Holds door open when swung beyond 90 degrees.

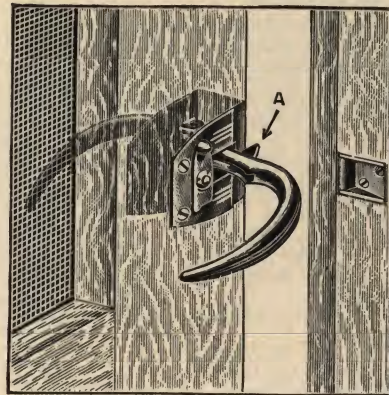
Made of steel, planished. Spring is made of best oil-tempered steel wire. Adjustable tension. Weight of door is carried on hardened tool steel ball bearings. Reversible side plates.

Alignment of door can be adjusted after door is in place.

Packed 1 set in a box with screws; weight, $3\frac{3}{4}$ pounds.

No. 15, Dead Black or Prime Coat.....per set **\$2.40**
No. 615, Dull Brass.....per set **2.50**

We carry in stock all makes of Key Blanks.

No. 8118 Wright Screen Door Latches

For screen and storm doors $1\frac{1}{8}$ inches thick.

Made of wrought steel or brass. Handles are rounded on the front and back.

Push the handle to open door from inside; pull the handle to open door from outside. Latch is equipped with a movable catch or latch bolt action in the handle. Note part "A" which is depressed when the door is closed by

pulling the handle from the inside or pushing the handle from the outside.

Packed 1 dozen in a box.

Shipping weight per dozen, 7 pounds.

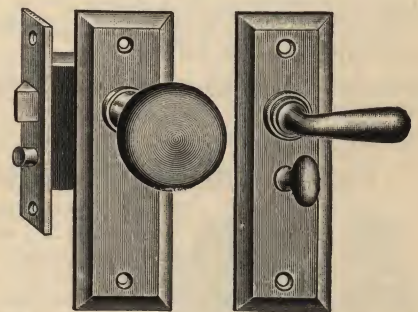
No. 8118CA, Cadmium Plated Steel.....per dozen **\$9.00**

No. 118PB, Polished Brass.....per dozen **12.00**

Corbin Screen Door Catches**No. 02459, Wrought Brass**

Reversible, japanned iron case, $2 \times 1\frac{3}{4} \times 1\frac{1}{2}$ ". Cast brass front and bolts; escutcheons, $1\frac{1}{2} \times 4$ "; knob, $1\frac{3}{4}$ "; lever, 2"; backset, $1\frac{1}{4}$ ".

Operates latch bolt by knob and lever, dead bolt by thumb knob from inside.



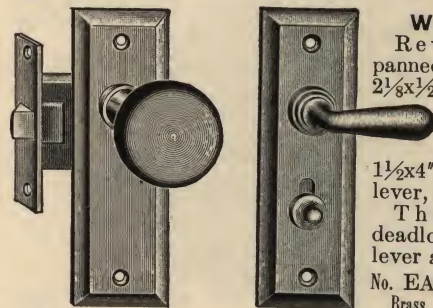
No. EA02459, Dull Brass Finish.....per dozen **\$26.65**

No. 02457**Wrought Brass**

Reversible, japanned iron case, $2 \times 2\frac{1}{8} \times 1\frac{1}{2}$ ". Cast brass front and bolts; front, $\frac{1}{16} \times 3\frac{3}{16}$ "; escutcheons, $1\frac{1}{2} \times 4$ "; knob, $1\frac{3}{4}$ "; lever, 2"; backset, $1\frac{5}{8}$ ".

The slide stop deadlocks latch bolt lever and knob.

No. EA02457, Dull Brass.....per doz. **\$21.65**

**No. 03457, Wrought Steel—Same Design as No. 02457**

No. EA03457, Dull Brass Finish.....per dozen **\$10.00**

No. 02463, Wrought Brass

Cast brass catch, $2\frac{1}{4} \times 1\frac{1}{8}$ "; escutcheons, $1\frac{1}{2} \times 3\frac{1}{4}$ "; knob, $1\frac{3}{4}$ ".

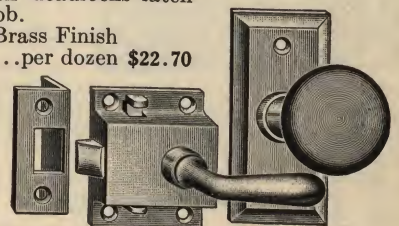
The slide on catch deadlocks latch bolts, lever and knob.

No. EA02463, Dull Brass Finish.....per dozen **\$22.70**

No. 03463**Wrought Steel**

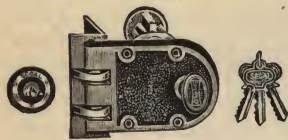
Same Design as No. 02463

No. EA03463, Dull Brass Finish.....per doz. **\$6.65**



No. 666 Segal Cast Bronze Jimmyproof Deadlocks

With Angle Strike for Single Door Opening In Double Sliding Doors and Double Doors Opening In or Out



Has cast bronze case, strike, cylinder, bolts, etc. Dimensions, $4\frac{3}{8} \times 2\frac{3}{4}$ inches. Standard backset, $2\frac{3}{8}$ inches. Cylinder is adjustable to doors $1\frac{1}{4}$ to 3 inches thick. Countersunk cylinder ring, force-proof.

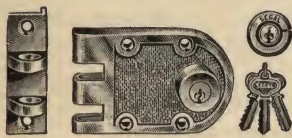
Furnished with three nickel silver keys. Key changes, unlimited. Dull bronze finish.

One in a box, shipping weight, $2\frac{1}{4}$ pounds; 3 dozen in a case, 96 pounds shipping weight.

No. 666.....per dozen \$42.00

No. 688 Segal Cast Bronze Jimmyproof Double-Cylinder Deadlocks

For Doors with Glass Panels

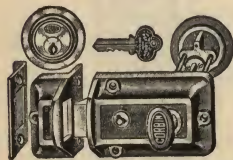


Has cast bronze case, strike, cylinder, bolts, etc. Dimensions, $4\frac{3}{8} \times 2\frac{3}{4}$ inches. Standard backset, $2\frac{3}{8}$ inches. Cylinder is adjustable to doors $1\frac{1}{4}$ to 3 inches thick. Has countersunk cylinder ring, force-proof. Furnished with 3 Liberty Silver keys. Unlimited key changes. Polished bronze finish.

When desired for single door opening out, reverse bevel door order with flat strike.

One in a box, shipping weight, $2\frac{1}{2}$ pounds; 3 dozen in a case, shipping weight, 96 pounds.

No. 688.....per dozen \$72.00

Corbin Cylinder Rim Night Latches

Cast iron case, $2\frac{1}{2} \times 3\frac{3}{8}$ in.; for doors 1 to $2\frac{1}{2}$ inches thick, backset, $2\frac{3}{8}$ inches; wrought bronze knob; 1 No. 251 ball bearing cylinder. Reversible. Three Class 27 nickel silver keys; changes practically unlimited.

Operates by key from outside and knob inside. Stop deadlocks against the key or holds the bolt retracted.

Furnished with 2 strikes, 1 reverse bevel for doors opening out.

Packed 1 in a box with screws.

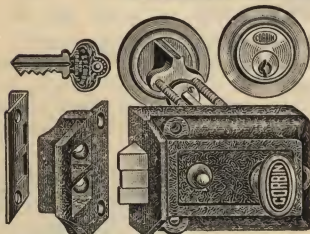
Weight per dozen, $20\frac{1}{2}$ pounds.

No. 356, Black Wrinkle Lacquer with Cast Bronze

Bolt.....per dozen

No. 3R6, Black Wrinkle Lacquer with Bronze Plated

Cast Iron Bolt.....per dozen

No. 456 $\frac{3}{4}$ Corbin Rim Night Latches Reversible Ball Bearing Cylinder

For doors 1 to $2\frac{1}{2}$ inches thick.

Black wrinkle lacquer finish iron case, size, $2\frac{1}{2} \times 3\frac{3}{8}$ inches. Backset, $2\frac{3}{8}$ inches, bronze knob, 2 strikes, 1 reverse bevel.

Furnished with three nickel silver keys. Unlimited key changes.

Operates by key from outside and knob from

inside. The trip in center of latch bolt is held back by contact with strike and secures the latch bolt from being forced back by end pressure.

Packed 1 in a box, with screws.

Weight per dozen, $22\frac{1}{4}$ pounds.

No. 456 $\frac{3}{4}$each

No. 2 Yale Cylinder Rim Dead Locks

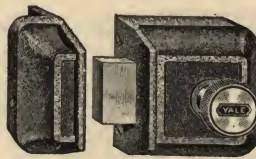
Case, $2\frac{1}{4} \times 3\frac{5}{8} \times 1\frac{1}{16}$ inches. Has a 5 pin-tumbler cylinder. Three keys; key changes are practically unlimited. Backset (distance from front of lock to center of cylinder), $2\frac{3}{8}$ inches. For doors from 1 to $2\frac{1}{2}$ inches thick, either right or left hand. Operated from the outside by a key, from the inside by a knob. Bolt is of brass, $\frac{5}{8}$ -inch throw.

Lock can be master-keyed if so desired.

Case is of iron, wrinkled brass finish. Cylinder and knob, of brass, buffed. Rim and flat strikes.

Packed 1 in a box, complete with screws.

No. 2.....per dozen \$26.67

No. 11 Yale Cylinder Rim Deadlocks

Iron case, size, $2\frac{3}{4} \times 2\frac{1}{2} \times 1\frac{1}{16}$ inches, with brown wrinkled finish. Cylinder No. 1109; 5-pin-tumblers; 3 keys, No. 8; changes practically unlimited. Rim and flat strikes for doors opening in or out. Backset, $1\frac{1}{4}$ inches.

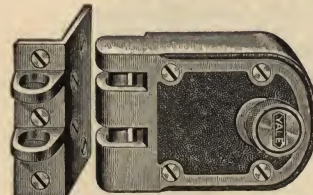
For either right or left-hand doors 1 to $2\frac{1}{2}$ inches thick. Operated from outside by key, from inside by knob.

Extra heavy brass bolt has extra long throw. Buffed brass cylinder and knob.

Can be master keyed if desired.

Packed 1 in a box with screws. Weight, $1\frac{3}{4}$ pounds.

No. 11.....per dozen \$66.67

Yale Cylinder Rim Deadlocks**No. 197**

For doors $1\frac{1}{4}$ to $3\frac{1}{4}$ inches thick, either right or left-hand.

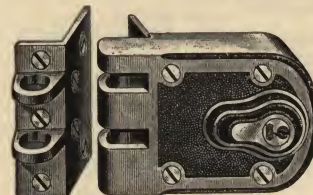
Lock.—Die-cast metal case, $2\frac{7}{8} \times 4\frac{5}{8} \times 1$ inches; No. 1109 cylinder; 5 pin tumblers; regular backset, $2\frac{3}{8}$ inches (when used on doors swinging out and single sliding doors, lock is applied almost flush with edge of door, in which case backset is $3\frac{3}{8}$ inches); hardened steel

bolt, nickel plated and blue oxidized; angle strike for single or double doors opening in and for double sliding doors. Three No. 8 keys, changes practically unlimited.

OPERATION.—From outside by key, from inside by knob.

Packed 1 in a box, with screws. Weight, 2 pounds.

No. 197, Bronze Plated Case, Angle Strike, Bronze Knob, Bronze Buffed Cylinder.....per doz. \$40.00

No. 197 $\frac{1}{4}$ 

Same as above except that the No. 1109 outside cylinder has 5 pin tumblers; inside 3 pin tumblers, and operation is by key from both sides.

Packed 1 in a box, with screws. Weight, 2 pounds. With regular and non-removable screws.

No. 197 $\frac{1}{4}$, Bronze-Plated Case, Angle Strike, Bronze Buffed Cylinder.....per doz. \$66.66

No. 042 Yale Night Latches



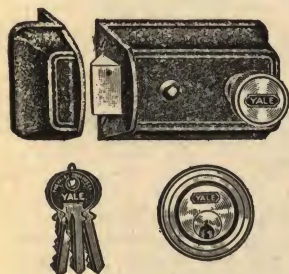
For doors 1 to 2½ inches thick, either right or left hand. Wrinkled brass finish, iron case, 2½x3½x1½ inches.

Brass bolt. Rim and R.B. strike. Brass buffed cylinder and knobs. Five pin-tumblers. Three keys. Key changes unlimited.

No. 042.....per doz. **\$26.66**

No. 42 Yale Cylinder Deadlatches

Manual Type



Wrinkled brown finish, iron case, 2¾x3½x1¼ inch. Rim and R.B. strike. Brass, buffed cylinder and knobs.

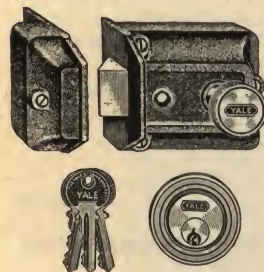
Five pin-tumbler cylinder. Three keys. Brass bolt. For doors 1 to 2½ inches thick, right or left hand.

Operates from outside by key, from inside by knob. Bolt may be held back by

stop and also deadlocked against end pressure by key or knob. When deadlocked, latch bolt has an additional throw of ⅛ inch.

No. 42.....per dozen **\$27.78**

No. 040½ Yale Cylinder Rim Night Latches



For doors 1 to 2½ inches thick, either right or left hand.

Iron, wrinkled brass finish case, 2¾x2¾x1½ inches.

Brass cylinder, 5 pin tumblers. Rim and flat strikes. Brass bolt.

Has 3 keys. Key changes practically unlimited.

Operated from outside by key, from inside by knob.

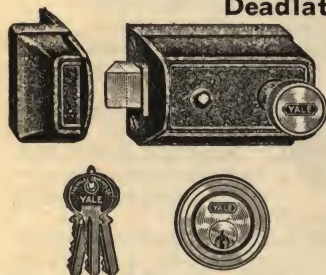
Bolt may be held back by stop.

Backset, 1½ inches.

Packed 1 in a box.

No. 040½.....per dozen **\$31.56**

No. 44 Yale Automatic Cylinder Deadlatches



Operates from outside by key, inside by knob. Bolt may be held back by stop. Bolt has ½-inch projection but when door is closed it is automatically thrown forward an additional ⅜ inch in a deadlocked position. Slide remains retracted when door is closed. Iron case, brown wrinkled

finish, size 2¾x3½x1½ inches. Five pin-tumbler cylinder. Three keys, No. 8, changes practically unlimited. Brass bolt. Backset, 2¾ inches. For doors 1 to 2½ in. thick, right or left hand. Packed 1 in a box with screws.

No. 44, Regular Rim Strike.....per doz. **\$35.56**

No. 44RB, Reverse Bevel Strike.....per doz. **35.56**

Champion Wrought Mail Box Plates



Has large opening to receive magazines and small packages as well as letters. Inside plate to cover opening in door is

included. Opening 1½x8 inches; outside plate, 3x10 inches.

Packed with screws, 6 in box. Weight per box, 6 pounds.

No.	Polished Steel Per Doz.	Polished Bronze or Brass		Finish
		No.	Per Doz.	
9150C	\$10.00	9155C	19.20	Dull Brass
9150H	11.00			Dead Black
.....	.....	9155CR	27.60	Polished Chrome
.....	.....	9155DCR	27.60	Dull Chrome

Corbin Nickel Silver Key Blanks



For five pin-tumbler cylinders: Nos. 250, 250½, 251, 251½, 253, and 253½.

Packed 3 dozen in a box.

No. 67 27 97 99
Per Gross.....

We carry in stock all makes of key blanks.

Yale Key-Bitting Machines



This machine will cut duplicate keys for pin-tumbler cylinder locks, and for flat lever-tumbler or warded locks, but not barrel keys or keys of the S50, S55 or S145 types. Machine is attached to ash cabinet with 2 drawers for holding an outfit of locksmith's tools for repairing locks, and an assortment of key blanks. Cabinet should be attached by means of screws to a counter or bench flush with front edge.

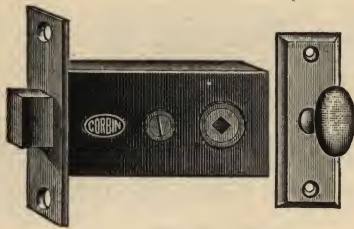
Size machine, 6x10 inches; height, 7 inches, exclusive of cabinet. Shipped ready for use and furnished with 2 rotary files, 1 saw-tooth rotary saw, necessary test pieces and wires for vises. When ordered with cabinet, 100 Yale No. 8 Key Blanks are furnished.

No. M-1005, without Cabinet or Key Blanks...each **\$46.66**

No. M-1007, with 2-Drawer Cabinet and 100 Yale

No. 8 Key Blanks.....each **63.12**

No. 164 Corbin Mortise Door Bolts



Japanned iron case, 1½x3½x½ inches; front, 7⁄8x3¼ inches; backset, 2⅝ inches; hub, ⅞ inch.
Has oval thumb turn.

No. EA164, Dull Brass Finish.....each \$1.55

Mortise Door Bolts



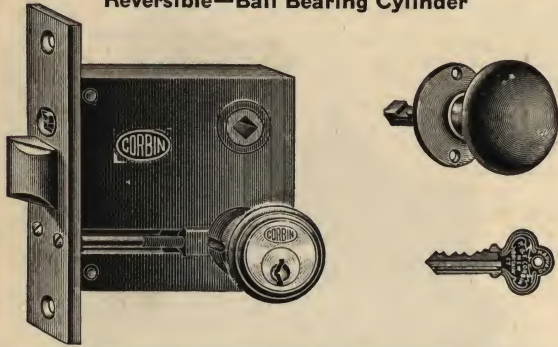
Wrought Brass Case, and Steel Plated Bolt

Length, 2½ inches; backset, 1¾ inches; diameter, ⅞ inch.
Packed 12 in a box, with screws.
Weight per box, 3 pounds.

Iron Knob & Escutcheon Polished No.	Brass or Bronze Knob & Escutcheon Polished, No.	Finish	Per Dozen
.....	4850	Antique Copper.....	\$5.00
P4846	.....	Bower Barffed.....	4.80
.....	4835	Bright Brass.....	5.00
.....	4834	Bright Bronze.....	5.00
.....	4851	Dull Brass.....	5.00
.....	4842	Nickel Plated, Bright.....	5.20
.....	4883½	Sanded Brass, Oxid. and Rel....	5.20

No. B0558 Corbin Mortise Night Latches

Reversible—Ball Bearing Cylinder



Japanned iron case, 3½x3½x1½ inches; backset, 2¾ inches, spacing, 1⅜ inches. Can be furnished with 2⅝-inch backset when ordered. Width of case is ⅜ inch more than backset. Front, 5x1 inches; hub, ⅞ inch; strike, lip to center, 1¼ inches.

Easy spring latch bolt. Operates by key from outside and knob from inside. Latch bolt is held retracted by stop in face. No. 1920 knob; one cylinder No. 253; nickel silver keys, class 67; unlimited changes.

Packed 1 in a box with screws. Weight per dozen, 35 pounds.

No. B0558, Natural Color, Polished.....each

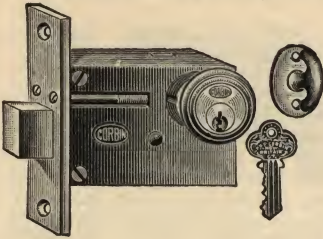
Metal Thresholds



Furnished in any length from stock. Aluminum or brass.

Width Base.....inches	4	5	6	6½
Aluminum.....per foot	\$1.35	\$1.60	\$1.80	\$3.75
Brass.....per foot	2.25	2.85	4.10	5.00
Width Top.....inches	2⅝	2⅝	3	5½
Height.....inches	½	½	½	½

Corbin Cylinder Mortise Dead Locks



Japanned iron case, 2½ x 3¼ x ¾ inch; *backset, 2¾ inches; cast bronze front, polished, 4⅞x1⅞ inch; dead bolt with ¾-inch throw; reversible.

Furnished with round-ed, beveled or armored front, when so ordered. For armored front, add symbol AR to number; i.e., 6011AR. Rounded

front to 4-inch radius unless otherwise ordered.
Three nickel silver keys, unlimited changes.
OPERATION. No. 6011 by key from one side only. No. 6012 by key from either side. No. 6013 by key from outside and thumb knob from the inside.
Packed 1 in a box, with screws.

No.	Each	Cast Bronze Thumb Knob	Cylinders	Wt. Lb. per Doz.
6011	One No. 253	18
6012	Two No. 253	21¾
6013	One No. 2145	One No. 253	21

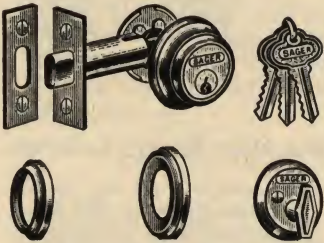
*Can be furnished 1, 1½, 1¾, 2, 2¼, or 2½ inches backset when so ordered.

No. 975 Sager Mortise Tubular Deadlocks

Reversible

For doors of either hand, opening in or out.

Die cast, cadmium plated case; size, 7⁄8x3½ inches; backset, 2⅝ inches. Forged brass front, 2¾x1 inches. Strike, 2¾x1 inches. Extruded brass bolt, ¾x⅞ inches with ⅞-inch throw. Bolt has two hardened steel pins in bolt head. One cylinder; five pin-tumblers; three No. 1888 keys, changes practically unlimited.



Die cast turnknob wrought bronze or brass, with bronze or brass scalp covering knob. Diameter plate, 1¾ inches.

Operation, by key from outside; by turnknob from inside.
Each latch furnished with three cylinder rings, suitable for doors 1⅝ to 2¼ inches thick.
Packed 1 in a box with screws.

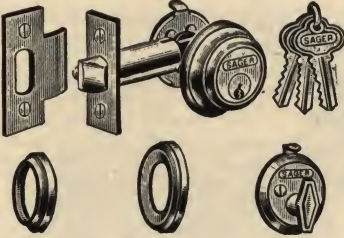
No. 975xD30, Dull Brass.....each \$3.00

No. 167 Sager Mortise Tubular Deadlatches

Automatic Deadlocking Bolt

Not reversible; specify hand desired.

Die cast, cadmium plated case; size, 7⁄8x3½ inches; backset, 2⅝ inches. Wrought brass front, 2¾x1 inches. Strike, 2¾x1 inches. Extruded brass bolt, ¾x1⅞ inches with ⅞-inch throw. One cylinder; five pin-tumblers; three No. 1888 keys, changes practically unlimited.



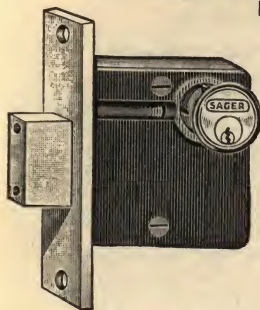
Die cast turnknob wrought bronze or brass, with bronze or brass scalp covering knob. Diameter plate, 1¾ inches.

Operation, by key from outside; by turnknob from inside. Bolt may be held back by stop. When door is closed the trigger bolt automatically deadlocks the latch bolt and makes it proof against end pressure.
Each latch furnished with three cylinder rings, suitable for doors 1⅝ to 2¼ inches thick.
Packed 1 in a box with screws.

No. 167xD30, Dull Brass.....each \$3.30

Sager Mortise Deadlocks

Reversible



Specify thickness of door.
Japanned iron case, $3\frac{1}{8} \times 3\frac{3}{8} \times \frac{7}{8}$ inches; regular backset, $2\frac{1}{2}$ inches; cast bronze, flat, armored front, $5\frac{1}{8} \times 1\frac{1}{4}$ inches; cast bronze bolt, $1\frac{1}{4} \times \frac{5}{8}$ inches, 1-inch throw; bronze strike. No. 1901 cast bronze cylinder; three No. 1888 keys; changes practically unlimited.

Dead bolt is extra heavy, with two casehardened pins in center to prevent cutting when locked.

Can be furnished with 2-inch backset with flat or round face. Packed 1 in a box with screws.

No. 974

Has one cylinder. Operates by key from one side only.

No. 974xA30, Polished Brass.....	each	\$7.50
No. 974xD30, Dull Brass.....	each	7.50
No. 974xD20, Dull Bronze.....	each	7.50
No. 974xA110, Polished Chromium.....	each	8.35
No. 974xD110, Dull Chromium.....	each	8.35

No. 974T

Has one cylinder and one No. 2411½ bronze turnknob. Operates by key from outside and turnknob from inside.

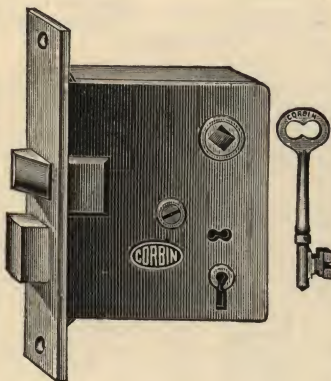
No. 974TxA30, Polished Brass.....	each	\$8.00
No. 974TxD30, Dull Brass.....	each	8.00
No. 974TxD20, Dull Bronze.....	each	8.00
No. 974TxA110, Polished Chromium.....	each	9.15
No. 974TxD110, Dull Chromium.....	each	9.15

No. 974½

Has two cylinders. Operates by key from either side.

No. 974½xA30, Polished Brass.....	each	\$9.25
No. 974½xD30, Dull Brass.....	each	9.25
No. 974½xD20, Dull Bronze.....	each	9.25
No. 974½xA110, Polished Chromium.....	each	10.50
No. 974½xD110, Dull Chromium.....	each	10.50

Corbin Mortise Knob Locks



Cast brass front and bolts except No. EA13271 which has steel front and iron bolts. Japanned iron case.

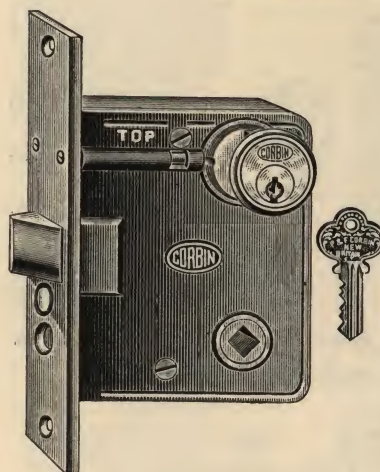
No. EA785 has one tumbler. No. EA785¾ has three tumblers. No. EA785 ⅞ is master-keyed. No. EA1284 and No. EA13271 have one tumbler. All locks furnished with one key.

Dull brass finish.

No.	Each	Case Inches	Backset Inches	Spacing Inches	Front Inches
EA 785	\$1.45	$3\frac{5}{8} \times 3\frac{1}{4} \times \frac{9}{16}$	$2\frac{9}{16}$	$2\frac{3}{16}$	$1\frac{15}{16} \times 5\frac{1}{2}$
EA 785¾	1.80	$3\frac{5}{8} \times 3\frac{1}{4} \times \frac{9}{16}$	$2\frac{9}{16}$	$2\frac{3}{16}$	$1\frac{15}{16} \times 5\frac{1}{2}$
EA 785⅞	2.25	$3\frac{5}{8} \times 3\frac{1}{4} \times \frac{9}{16}$	$2\frac{9}{16}$	$2\frac{3}{16}$	$1\frac{15}{16} \times 5\frac{1}{2}$
EA1284	1.10	$3\frac{5}{8} \times 3\frac{1}{4} \times \frac{1}{2}$	$2\frac{9}{8}$	$2\frac{3}{16}$	$\frac{7}{8} \times 5\frac{1}{4}$
EA13271	.65	$3\frac{5}{8} \times 3\frac{1}{4} \times \frac{1}{2}$	$2\frac{3}{8}$	$2\frac{3}{16}$	$\frac{7}{8} \times 5\frac{1}{4}$

No. 1323 Corbin Mortise Vestibule Door Locks

Reversible



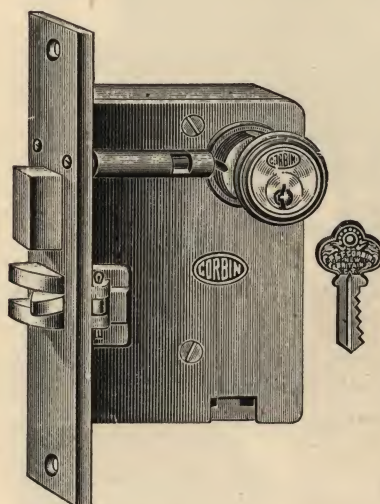
Japanned iron case, $4\frac{5}{8} \times 3\frac{5}{8} \times 1\frac{1}{16}$ inches; cast brass front and bolt.

Front, $1 \times 6\frac{7}{8}$ inches; backset, $2\frac{1}{2}$ inches. One ball-bearing cylinder, three keys.

No. EA1323, Dull Brass Finish.....	each	\$8.90
No. F1323, Bower Barff Finish.....	each	8.90

No. 0288 Corbin Store Door Locks

Reversible



Japanned iron case, $5\frac{1}{4} \times 3\frac{3}{4} \times \frac{3}{4}$ inches; cast brass front and bolts.

Front, $1\frac{1}{4} \times 8$ inches; backset, $2\frac{3}{4}$ inches. Two ball-bearing cylinders.

Latch bolt is operated by thumb piece from either side. Dead bolt by key from either side.

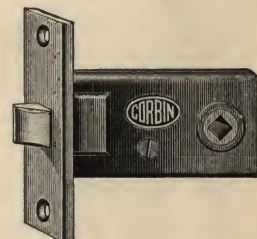
No. 0288 Corbin Store Door Locks.....	each	\$11.10
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Corbin Mortise Knob Latches

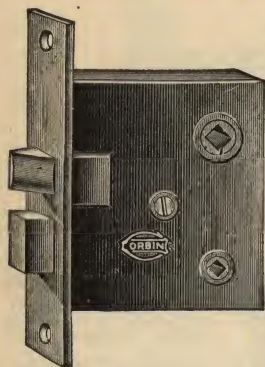
Cast brass front and brass bolts, except No. EA0 which has steel front and iron bolt. Japanned iron case.

Nos. EA045 and EA049 have easy springs. No. EA049 has brass hub. No. EA045 can be furnished in $1\frac{1}{2}$ -inch or 2-inch backset also.

Dull brass finish.



No.	Per Dozen	Case Inches	Backset Inches	Front Inches
EA045	\$12.00	$1\frac{5}{8} \times 3\frac{1}{4} \times \frac{9}{16}$	$2\frac{1}{2}$	$\frac{7}{8} \times 3\frac{3}{8}$
EA049	24.00	$2\frac{1}{4} \times 3\frac{1}{16} \times \frac{5}{8}$	$2\frac{3}{4}$	1 x 4
EA 10	7.35	$1\frac{1}{4} \times 3\frac{1}{4} \times \frac{1}{2}$	$2\frac{5}{8}$	$\frac{7}{8} \times 2\frac{7}{8}$
EA 0	4.00	$1\frac{1}{4} \times 3\frac{1}{4} \times \frac{1}{2}$	$2\frac{5}{8}$	$\frac{7}{8} \times 2\frac{7}{8}$

Corbin Mortise Bathroom LocksJapanned iron case, size, $3\frac{3}{4} \times 3\frac{1}{4} \times \frac{9}{16}$ inches.**No. 859**Cast brass front and bolts. Front, $\frac{7}{8} \times 5\frac{1}{2}$ inches; backset, $2\frac{1}{2}$ inches.

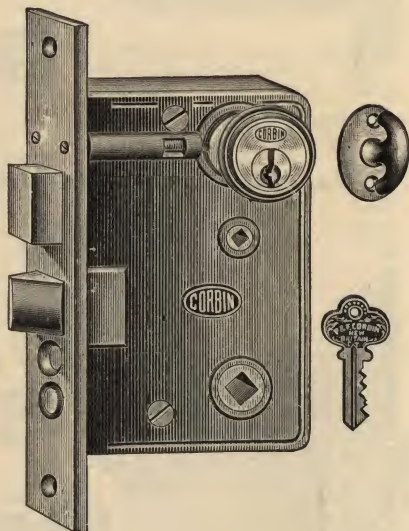
No. EA859, Dull Brass Finish each \$1.95
 No. E859, N.P. Finish..... each \$2.05

No. 13159Steel face iron bolts. Front, $\frac{7}{8} \times 5$ inches; backset, $2\frac{3}{8}$ inches.

No. E13159, N.P. Finish..... each \$1.05

No. 1343 Corbin Mortise Front Door Locks

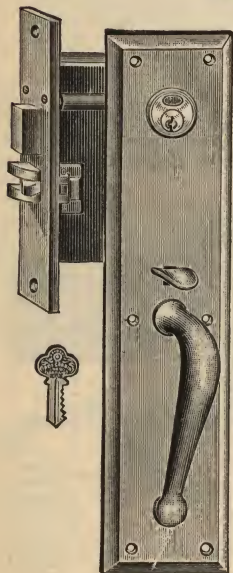
Reversible

Japanned iron case, $5\frac{5}{8} \times 3\frac{3}{4} \times \frac{3}{4}$ inches; cast brass front and bolts.Front, $1 \times 7\frac{7}{8}$ inches; backset, $2\frac{1}{2}$ inches. One ball-bearing cylinder, three keys and one thumb knob on plate.

No. EA1343 Dull Brass Finish..... each \$10.55
 No. F1343 Bower Barff Finish..... each 10.55

No. 702-991 Corbin Cylinder Store Door Handle Locksets

Wrought Bronze



No. 0288 Lock; japanned iron case, $5\frac{1}{4} \times 3\frac{3}{4} \times \frac{3}{4}$ inch; backset, $2\frac{3}{4}$ inches; cast bronze front, polished, $8 \times 1\frac{1}{4}$ inches; reversible. Dimensions of this lock conform to standards established for the convenience of metal door manufacturers.

Three nickel silver keys; unlimited changes.

One pair of No. 70281 Handles, size $14\frac{1}{2} \times 3\frac{1}{8}$ inches; Grip No. 4416.

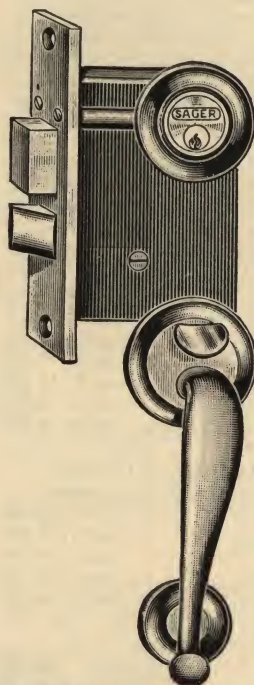
OPERATION. Latch bolt by thumb piece from either side. Dead bolt by key from either side.

Packed 1 set in a box, with screws.

Weight per set, $7\frac{1}{4}$ pounds.

No. EA-702-991 Natural Color, Dull..... per set

No. SKA-702-991 Oxidized and Relieved, Sanded per set

No. YT92584 Sager Entrance Door Cylinder Lock SetsYorktown Design—Sectional Handle
Cast Bronze

For use on store doors with handles on both sides. Specify thickness of door.

Reversible lock No. 584. Cast bronze front, $7 \times 1\frac{1}{4}$ inches; japanned iron case, $5 \times 3\frac{1}{2} \times 7\frac{7}{8}$ inches; backset, $2\frac{1}{2}$ inches; strike, center of opening to end of lip, $1\frac{5}{8}$ inches; spacing, center of cylinder to bottom of lift, $4\frac{1}{4}$ inches. Cast bronze bolts; latch bolt, $\frac{1}{8}$ -inch throw; dead bolt, $\frac{1}{2}$ -inch throw. Two No. 1901 cast bronze cylinders; three No. 1888 keys; changes practically unlimited.

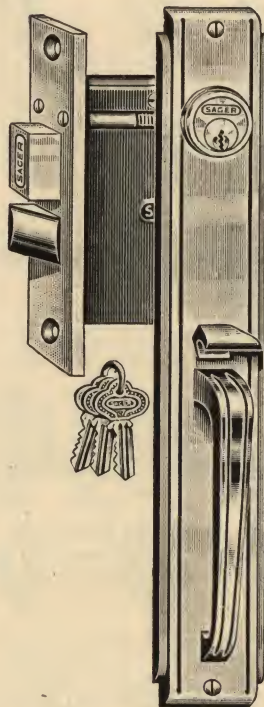
Operation: Latch bolt by thumb piece from either side. Dead bolt by key from either side.

Furnished with one pair of No. YT92 handles, size, $15\frac{1}{4} \times 2\frac{7}{8}$ inches overall; No. 3918 grip; $2\frac{5}{8}$ -inch projection; No. YT1991 cylinder plate, size $2\frac{1}{2}$ inches; thumb piece plate, $2\frac{1}{2}$ inches; lower plate, $1\frac{3}{4}$ inches.

Can be furnished with No. 585 lock which has dead bolt with 1-inch throw.

Packed 1 set in a box with screws.

No. YT92584xA30, Polished Brass..... per set \$18.00
 No. YT92584xD30, Dull Brass..... per set 18.00
 No. YT92584xA110, Polished Chromium..... per set 19.50

No. NB82584 Sager Entrance Door Cylinder Lock SetsNewberne Design
Wrought Bronze

For use on store doors with handles on both sides. Specify thickness of door.

Reversible lock No. 584. Cast bronze front, $7 \times 1\frac{1}{4}$ inches; japanned iron case, $5 \times 3\frac{1}{2} \times 7\frac{7}{8}$ inches; backset, $2\frac{1}{2}$ inches; strike, center of opening to end of lip, $1\frac{5}{8}$ inches; spacing, center of cylinder to bottom of lift, $4\frac{1}{4}$ inches. Cast bronze bolts; latch bolt, $\frac{1}{8}$ -inch throw; dead bolt, $\frac{1}{2}$ -inch throw. Two No. 1901 cast bronze cylinders; three No. 1888 keys; changes unlimited.

Operation: Latch bolt by thumb piece, and dead bolt by key from either side.

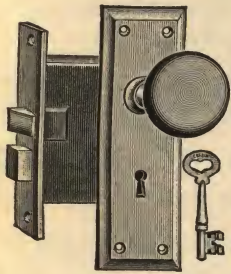
Furnished with one pair of No. NB82 handles, size, $14\frac{3}{8} \times 2\frac{3}{4}$ inches overall; No. NB3992 cast bronze grip, center to center, $5\frac{1}{2}$ inches; $2\frac{1}{2}$ -inch projection. Plate is wrought bronze.

Can be furnished with No. 585 lock which has dead bolt with 1-inch throw.

Packed 1 set in a box with screws.

No. NB82584xD21 Dull Bronze, Oxidized and Relieved..... per set \$12.00
 No. NB82584xA110, Polished Chromium..... per set 14.50
 No. NB82584xD110, Dull Chromium..... per set 14.50

Corbin Inside Locksets



No. 702132, Wrought Brass
This set consists of: one pair of 2¼-inch seamless knobs; two escutcheons, 2¼x7 inches; No. 1284 lock with cast brass front and bolts, japanned iron case 3½x3½x½ inch. Backset, 2⅝ inches; spacing, 2⅝ inches; front, ⅞x5¼ inches. One tumbler, one key.
No. EA702132 Dull Brass Finish.....per set \$2.90
No. F702132 Bower Barff Finish.....per set 2.60

No. 602048, Wrought Steel

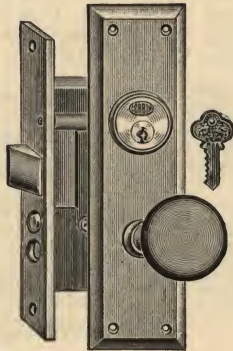
Consists of: one pair of 2¼-inch seamless knobs; two escutcheons, 2¼x7 inches; No. 13271 lock with steel front and iron bolts, japanned iron case 3⅝x3⅝ inch. Backset, 2⅝ inches; spacing, 2⅝ inches; front, ⅞x5¼ inches. One tumbler, one key.
No. EA602048 Dull Brass Finish.....per dozen \$13.30
No. KF602048 Imitation Bower Barff Finish.....per doz. 14.50

No. 702742 Corbin Cylinder Vestibule Locksets

Wrought Brass

This set consists of: one pair of 2¼-inch seamless knobs; No. 1323 lock with japanned iron case 4⅝x3⅝x½ inches; cast brass front and bolt. Front, 1x6⅞ inches; backset, 2½ inches. One ball-bearing cylinder, three keys. Outside escutcheon, 2½x9 inches; inside, 2¼x7 inches.

No. EA702742 Dull Brass Finish.....per set \$10.55
No. F702742 Bower Barff Finish.....per set 10.00

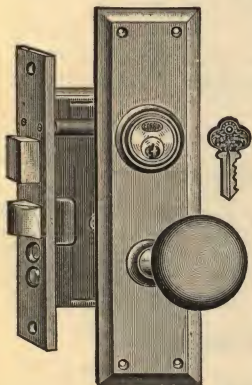


No. 702842 Corbin Cylinder Front Door Locksets

Wrought Brass

Consists of: one pair of 2¼-inch seamless knobs; No. 1343 lock with japanned iron case 5⅝x3⅝x½ inches; cast brass front and bolts. Front, 1x7⅞ inches; backset, 2½ inches. One ball-bearing cylinder, three keys. Outside escutcheon, 3x10 inches; inside, 2¼x7 inches with thumb turn.

No. EA702842 Dull Brass Finish.....per set \$11.65
No. F702842 Bower Barff Finish.....per set 11.10



Corbin Bathroom Locksets

No. 702436, Wrought Brass

Set consists of: one 2¼-inch seamless knob; one escutcheon, 2¼x7 inches with thumb turn; No. 159 lock with japanned iron case 3⅝x3¼x½ inches; cast brass front and bolts. Front, 1⅝x5½ inches; backset, 2⅝ inches.

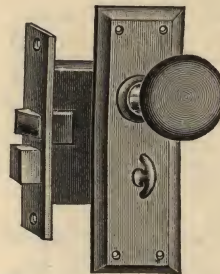
No. E702436 Nickel-Plated Finish.....per set \$2.70

No. 602072, Wrought Steel

Consists of: one 2¼-inch seamless knob; one escutcheon, 2¼x7 inches with thumb turn; No. 13159 lock with japanned iron case 3⅝x3¼x½ inches; steel face iron bolts. Front, ⅞x5 inches; backset, 2⅝ inches.

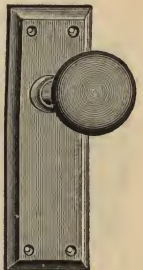
No. E602072 Nickel-Plated Finish.....per set \$1.40

Corbin Bathroom Door Lock Sets



Set consists of two 2¼-inch seamless brass knobs; two escutcheons, size 2¼x7 inches, one with thumb knob; No. 859 lock with japanned iron case size, 3¼x3¼x½-inch; cast brass front and bolts.

Front, ⅞x5½ inches; backset, 2½ inches.

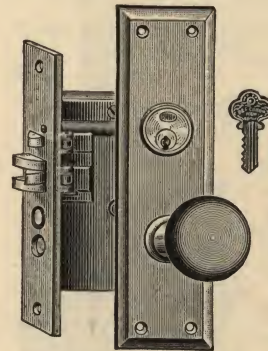


Escutcheon with Knob

Plain Escutcheon

No. EA702438, Dull Brass Fin. Both Sides...per set \$3.25
No. F702438, Bower Barff Fin. Both Sides...per set 3.15
No. CRx702438, Chrome x Dull Brass Fin...per set 3.85

Corbin Cylinder Office Door Lock Sets



Set consists of one pair of 2¼-inch seamless brass knobs with screw spindle; outside escutcheon, size 2½x9 inches; inside, size 2¼x7 inches; No. 01339 lock with japanned iron case 5x3⅝x¾-inch; cast brass front and bolts.

Front, 8x1¼ inches; backset, 2¾ inches. Not reversible, specify hand of door.

No. EA702756x01339, Dull Brass Finish.....per set \$11.70
No. F702756x01339, Bower Barff Finish.....per set 11.25
No. DCR702756x01339, Dull Chrome Finish...per set 13.20

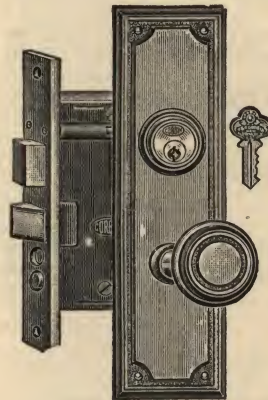
Corbin Cylinder Front Door Locksets

Victor Design

No. 710842, Wrought Brass

Consists of: one pair of 2¼-inch seamless knobs; outside escutcheon, 3x10½ inches; inside, 2⅝x7¼ inches with thumb turn; No. 1343 lock with japanned iron case 5⅝x3⅝x½ inches; cast brass front and bolts. Front, 1x7⅞ inches; backset, 2½ inches. One ball-bearing cylinder with three keys.

No. KA710842 Dull Brass Relieved Finish.....per set \$12.80
No. 2A710842 Sanded Brass, Edges Polished.....per set 13.15



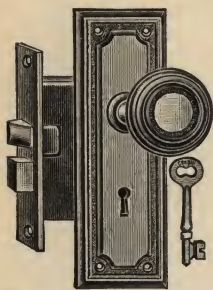
No. 710742 Corbin Cylinder Vestibule Locksets

Victor Design

Wrought Brass

This set consists of: one pair of 2¼-inch seamless knobs; outside escutcheons, 2¼x8½ inches; inside, 2⅝x7¼ inches; No. 1323 lock with japanned iron case, 4⅝x3⅝x½ inches; cast brass front and bolt. Front, 1x6⅞ inches; backset, 2½ inches. One ball-bearing cylinder, three keys.

No. KA710742 Dull Brass Relieved Finish...per set \$11.70
No. 2A710742 Sanded Brass, Edges Polished...per set 12.00

Corbin Inside Locksets**Victor Design****No. 710132, Wrought Brass**

Consists of: one pair 2¼-inch seamless knobs, two escutcheons 2½x7 inches; iron case 3½x3½x½ inches; cast brass front and bolts. Backset, 2⅝ inches; spacing, 2⅝ inches; front, 7/8x5¼ inches. One tumbler, one key.

No. KA710132 Dull Brass Relieved Finish....per set \$3.00
No. 2A710132 Sanded Brass, Edges Polished....per set 3.20

No. 610048½, Wrought Steel

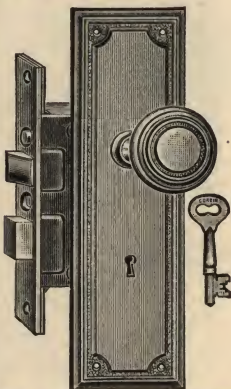
Consists of: one pair 2¼-inch two-piece knobs, 2 escutcheons 2½x7 inches; with No. 13271 lock with steel face and bolts, dimensions same as the No. 1284 lock shown with the No. 710132 set.

No. KA610048½ Dull Brass Relieved Finish....per doz. \$12.75
No. 2A610048½ Sanded Brass, Edges Polished.....per doz. 14.00

Corbin Front Door Locksets**No. 710822, Wrought Brass**

Consists of: one pair of 2¼-inch seamless knobs; outside escutcheons, 3x10½ inches; inside, 2½x7¼ inches; No. 1251 lock reversible, iron case 4½x3½x1¼ inches; brass front and bolts. Front, 1x7 inches; backset, 2½ inches. One key.

No. KA710822 Dull Brass Relieved Finish....per set \$5.80
No. 2A710822 Sanded Brass, Edges Polished....per set 6.00

**No. 610806, Wrought Steel**

Consists of: one pair 2¼-inch seamless knobs; outside escutcheon, 3x10½ inches; inside, 2½x7¼ inches; No. 3251 lock same as No. 1251 lock but with steel face and iron bolts.

No. KA610806 Dull Brass Relieved Finish....per set \$3.40
No. 2A610806 Sanded Brass, Edges Polished....per set 3.50

No. 2501 Sager Key Escutcheons

Made of wrought bronze.

Size, 1¾x1½ inches.

Packed 2 dozen in a box with screws.



No. 2501xA30, Polished Brass.....per dozen \$1.35
No. 2501xD30, Dull Brass.....per dozen 1.35
No. 2501xD20, Dull Bronze.....per dozen 1.35
No. 2501xA110, Polished Chromium.....per dozen 2.60
No. 2501xD110, Dull Chromium.....per dozen 2.60

Sager Door Knobs**No. 2112¼C—Wrought Bronze**

One-piece knob, made of wrought bronze. Size, 2¼ inches. Projection, 2¼ inches. Has ⅝-inch Model C spindle mounting.

Furnished with No. 2002B wrought bronze rose.

Packed 6 pairs in a box with spindle and screws.

No. 2112¼xD30, Dull Brass.....per dozen pairs \$13.20
No. 2112¼x17, Bower Barff.....per dozen pairs 10.20
No. 2112¼xA110, Polished Chrome...per dozen pairs 19.20

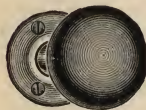
No. 02112¼—Wrought Steel

One-piece knob, made of wrought steel. Size, 2¼ inches. Projection, 2¼ in. Has ⅝-inch standard spindle mounting.

Furnished with No. 02002 wrought steel rose.

Packed 6 pairs in a box with spindle and screws.

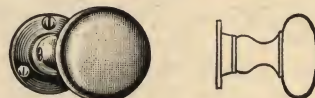
No. 02112¼xD30, Dull Brass.....per dozen pairs \$6.00
No. 02112¼x18, Imitation Bower Barff per doz. prs. 6.84
No. 02112¼xA50, Nickel Plated....per dozen pairs 6.84

**No. 2519 Sager Key Escutcheons**

Made of wrought bronze. Size, 1¾x¾ inches.

Packed 2 dozen in a box with screws.

No. 2519xA30, Polished Brass.....per dozen \$1.35
No. 2519xD30, Dull Brass.....per dozen 1.35
No. 2519xD20, Dull Bronze.....per dozen 1.35
No. 2519xA110, Polished Chromium.....per dozen 2.60
No. 2519xD110, Dull Chromium.....per dozen 2.60

No. YC102 Sager Door Knobs

Wrought bronze top, cast bronze shank. Size, 2 inches. Projection, 2⅝ inches. Has ⅝-inch Model C spindle mounting.

Furnished with No. 2001B wrought bronze rose.

Packed 1 pair in a box with spindle and screws.

No. YC102xA30, Polished Brass....per dozen pairs \$21.00
No. YC102xD30, Dull Brass.....per dozen pairs 21.00
No. YC102xD20, Dull Bronze.....per dozen pairs 21.00
No. YC102xA110, Polished Chromium...per dozen pairs 27.00
No. YC102xD110, Dull Chromium...per dozen pairs 27.00

No. 2517 Sager Key Escutcheons

Made of wrought bronze. Size, 2x1½ inches.

Packed 2 dozen in a box with screws.

No. 2517xA30, Polished Brass.....per dozen \$1.35
No. 2517xD30, Dull Brass.....per dozen 1.35
No. 2517xD20, Dull Bronze.....per dozen 1.35
No. 2517xA110, Polished Chromium.....per dozen 2.60
No. 2517xD110, Dull Chromium.....per dozen 2.60

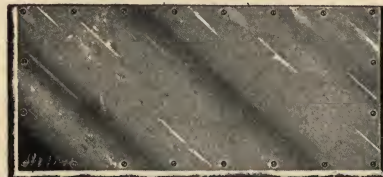
No. YE102 Sager Door Knobs

Wrought bronze top, cast bronze shank. Size, 2 inches. Projection, 2½ inches. Has ⅝-inch Model C spindle mounting.

Furnished with No. 2004B wrought bronze rose.

Packed 1 pair in a box with spindle and screws.

No. YE102xA30, Polished Brass....per dozen pairs \$21.00
No. YE102xD30, Dull Brass.....per dozen pairs 21.00
No. YE102xD20, Dull Bronze.....per dozen pairs 21.00
No. YE102xA110, Polished Chromium...per dozen pairs 27.00
No. YE102xD110, Dull Chromium...per dozen pairs 27.00

Payson Kick Plates

Made from wrought brass, bronze, aluminum, steel, or stainless steel.

With square edges, drilled and countersunk.

Thickness: B&S gage, Nos. 12, 14, or 16.

Standard widths: 8, 10, 12, 14, 16, 18, and 20 inches; other widths furnished to order.

Furnished in all standard finishes, except common steel plates which are made in genuine or imitation Bower-Barff finish only.

Packed with oval head screws unless otherwise specified.

Prices upon application.

Payson Push and Pull Bar Sets

Nos. 02022 and 02024



No. 02022

Round tubing $\frac{3}{4}$ inch in diameter; projection, $2\frac{1}{8}$ inches; clearance, 1 inch.

No. 02022, Polished or Dull Brass, 20-Inch Center.....each \$3.30
No. 02022, Nickel-Plated, 20-Inch Center.....each 3.80
Add per Inch Over 20 Inches.....per inch .08

No. 02024

Round tubing 1 inch in diameter; projection, $2\frac{3}{8}$ inches; clearance, $1\frac{1}{8}$ inches.

No. 02024, Polished or Dull Brass, 20-Inch Center.....each \$3.60
No. 02024, Nickel-Plated, 20-Inch Center.....each 4.30
Add per Inch Over 20 Inches.....per inch .10

No. 01382 Payson Door Pulls



Grip, $\frac{3}{8} \times 1\frac{1}{4}$ -inch rod. Length overall, $14\frac{1}{4}$ inches; projection, $1\frac{5}{8}$ inches; clearance, $1\frac{5}{16}$ inches; and spacing, center to center, 8 inches.

Has 1-inch round posts.

Furnished in brass or bronze, in all finishes, white bronze, aluminum or aluminite in polished or dull finish; also in polished or dull stainless steel and genuine Bower Barff.

Packed with $3 \times \frac{1}{4}$ -inch through bolts, lock washers and nuts.

Prices upon request.

Corbin Door Pulls

Cast Brass



No. 02209 $\frac{1}{2}$



No. 02210 $\frac{1}{4}$



No. 4395

No.	EA02209 $\frac{1}{2}$	EA02210 $\frac{1}{4}$	EA4395
Dull Brass Finish.....each	\$1.10	1.80	2.00
Length.....inches	6	7 $\frac{3}{4}$	6 $\frac{1}{4}$

Payson Push Bars



Rectangular. Projection, $\frac{3}{4}$ inch; clearance, $\frac{3}{8}$ inch. Brass or bronze, white bronze, aluminum or aluminite in polished or dull finish; polished or dull stainless steel and Bower Barff. Specify length, thickness of door.

No.	02100	02102
Size Bar.....inches	$\frac{3}{8} \times 1\frac{1}{4}$	$\frac{3}{8} \times 2$

No. 01363x01753 Payson Door Pulls



Door pull has overall length of 10 inches; projection, $2\frac{1}{8}$ inches; clearance, $1\frac{1}{2}$ inches; center to center of grip, $7\frac{1}{8}$ inches.

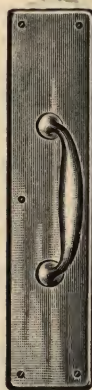
Base plates, $2\frac{1}{6} \times 2\frac{1}{6}$ inches.

Furnished in cast brass or bronze in all finishes, white bronze, aluminum or aluminite, polished or dull finish.

Screws and bolts furnished.

Bronze, Polished or Dull Finish.....each	\$3.95
Brass, Polished or Dull Finish.....each	3.95
Brass, Chrome Plated Finish.....each	5.00
Aluminum, Polished or Dull Finish.....each	3.95
Aluminite, Polished or Dull Finish.....each	4.80

Payson Pull Plates



Made of No. 16 B&S gage material, with $\frac{1}{16}$ -inch bevel.

Pull projects, $2\frac{1}{8}$ inches; clearance, $1\frac{1}{2}$ inches and spaced, center to center, $5\frac{1}{2}$ inches.

Furnished in wrought brass or bronze in all finishes, white bronze, aluminum or aluminite in polished or dull finish, polished or dull stainless steel, and genuine Bower Barff.

Can be furnished cut for cylinder or bit key; specify location.

Packed with screws and bolts.

No.	01582	01584 $\frac{1}{2}$	01588
Plate Size.....inches	12x3	14x3 $\frac{1}{2}$	16x4

Prices upon request.

Push Plates



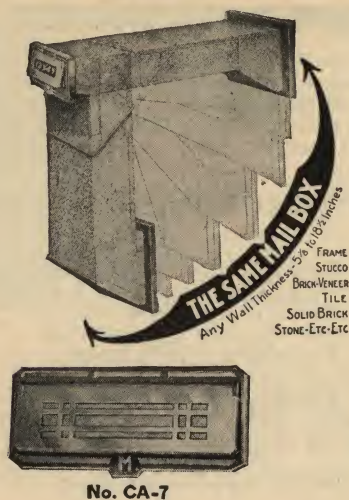
No. 02325 $\frac{1}{2}$, Solid Wrought Brass

Size Inches	EACH	
	Dull Brass	Nickel-Plated
3 x12	\$1.20	\$1.35
3 $\frac{1}{2}$ x14	1.60	1.75
4 x16	1.95	2.10

Plate Glass, Beveled Edges Square Corners

Size Inches	EACH	
	Clear	Opal
3 x12	\$.60	\$1.20
3 $\frac{1}{2}$ x15	1.00	2.00

Built-In Mail Boxes



Made from galvanized iron in horizontal and vertical models. With attractive, cast metal face plate and hardwood inside door.

Chute is adjustable to walls from 5 1/8 to 18 1/2 inches thick.

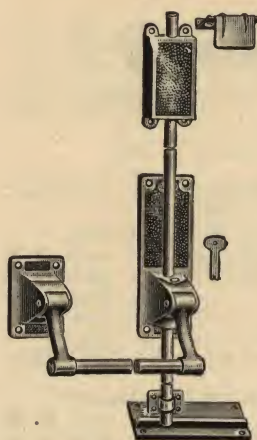
Size, 4x9 inches.

Face Plate	Horizontal Model		Vertical Model	
	No.	Each	No.	Each
Aluminum, Wrought Iron				
Finish.....	CA7A	\$5.40	CA17A	\$5.40
Brass, Polished.....	CA7B	6.00	CA17B	6.00
Extra for Push Button for Bell.....				.50
Extra for Illuminating Fixture and House Number in				
Face Plate.....				2.40

No. CA-17

Corbin Automatic Exit Fixtures

Exit Bolts with Push Bar



Standard size for stock; for doors 8 1/2 x 3 feet; standard height of bar from floor, 38 inches. Can be fitted to door of any height or width under 8 1/2 x 3 feet by sawing off the end of the top bolt and horizontal bar to the required lengths. Requires stile at least 3 1/2 inches wide.

Reversible. Diameter bolt rods, 5/8 inch; horizontal bar, 3/4-inch tubing; brackets, 8 1/2 x 2 7/8 inches and 4 1/8 x 2 7/8 inches; top case, 5 1/4 x 2 3/8 inches. Top strike with return for stop 1/2 inch thick.

Operates by pressure on the horizontal bar which automatically retracts bolts at top and bottom, in which position they are held as long as the door is open. When door closes, the bolts are automatically projected into the strikes, except when they are locked in retracted position by means of the key.

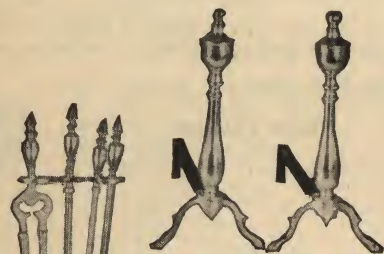
In ordering give height of door, width of door, width of stile and height of bar from floor, otherwise stock size will be furnished. Unless otherwise stated, thickness of stops will be figured at 1/2 inch.

Weight each, 15 pounds.

No. D3557, All Iron, Dead Black Finish.....each

No. B2557, All Bronze, Polished Finish.....each

Fireplace Fixtures



We stock a complete line of andirons, fireplace screens, grates and fire sets in exclusive designs. Andirons as low as \$3.50 per set.

